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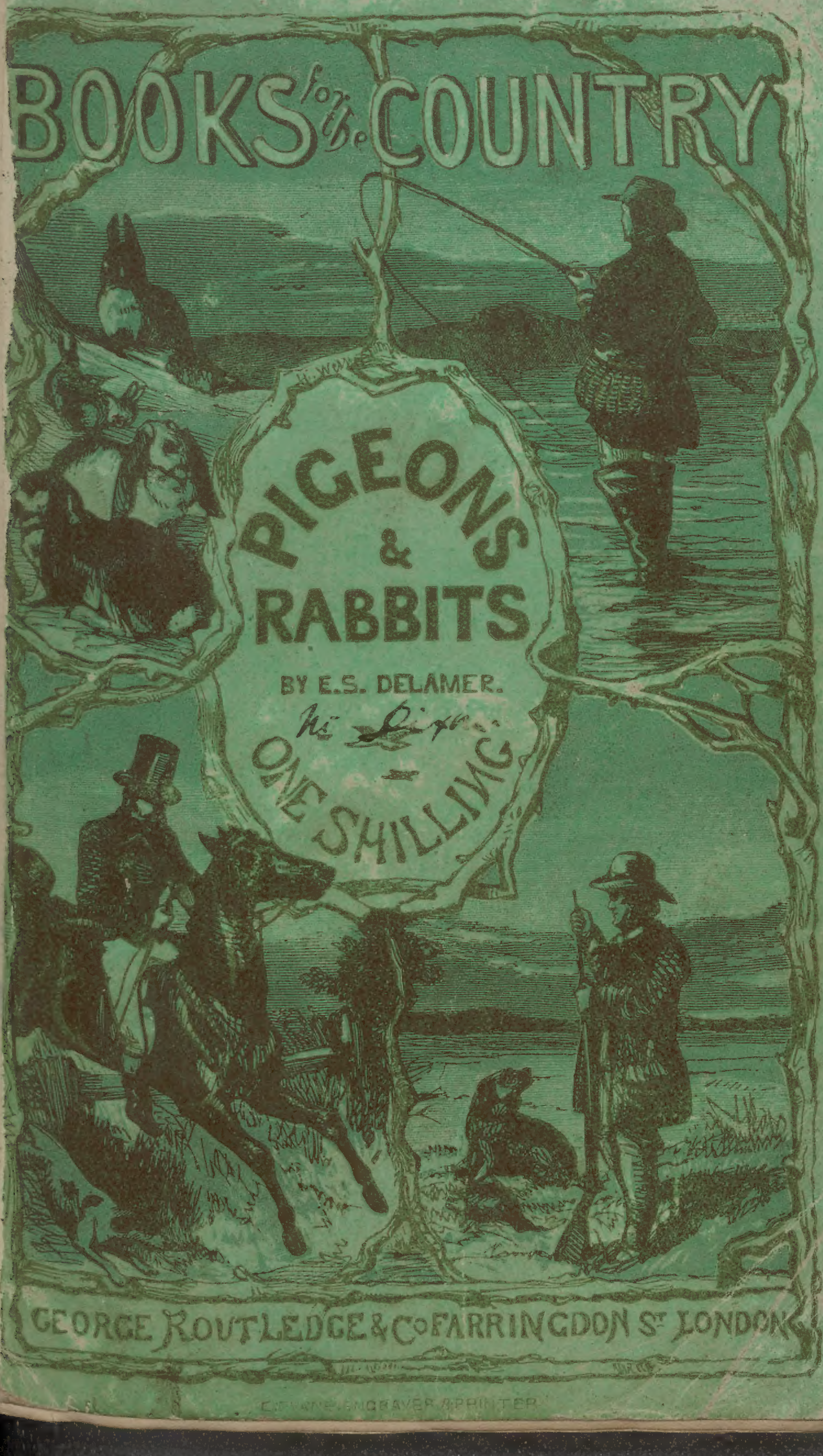

PIGEONS & RABBITS

BY E.S. DELAMER.

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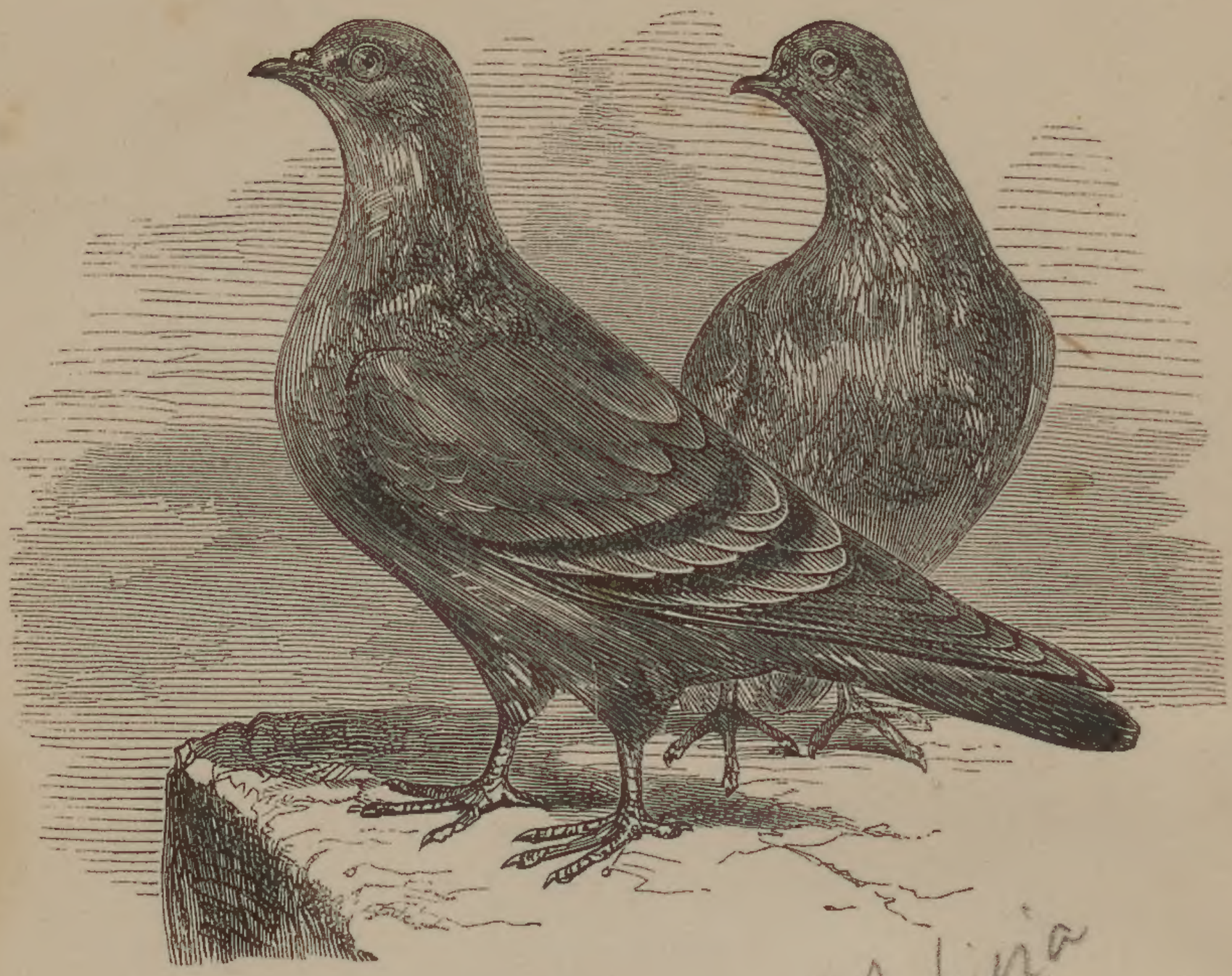

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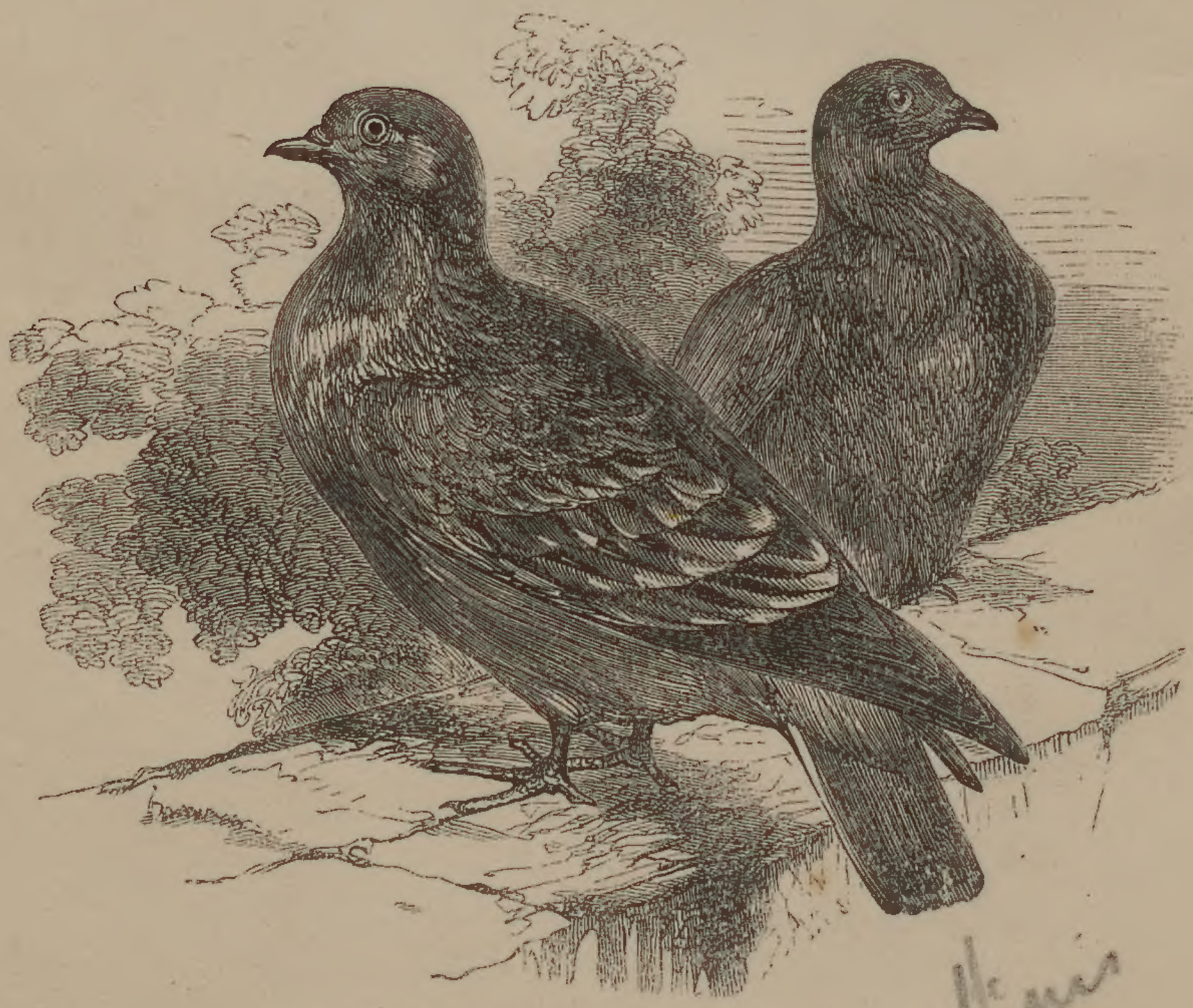

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PIGEONS AND RABBITS,

IN THEIR

WILD, DOMESTIC, & CAPTIVE STATES.

BY

E. SEBASTIAN DELAMER.

With Illustrations.

LONDON:
G. ROUTLEDGE & CO., FARRINGDON STREET;
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1854.

Harry Soane. 1882.

NOTICE.

In the composition of the present Book for the Country, it has been the desire of the Publishers, that, without entirely excluding the less necessary points of the subject, it should be made a thoroughly practical Treatise, and should contain such information as is most required by a person first keeping Pigeons and Rabbits, with but little previous knowledge of their management. The Writer has done his best to carry out this intention; and he trusts that the novice, after a careful perusal of the following pages, will find but little difficulty in commencing and continuing his pleasing task. The reader will also kindly bear in mind, that the object has been to point out general rules of treatment, and their reasons, rather than to fill the volume with trifling and multitudinous details. This principle has been adopted in the firm belief that when once an author has fully described and explained the leading topics connected with his subject, the intelligent student and the enthusiastic amateur, even although mere beginners in their art, will be quite able to make the proper application themselves, according to the circumstances in which they happen to be placed.

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PIGEONS.

ANTIQUITY OF PIGEON-KEEPING.

For the last two or three thousand years at least, certain pigeons have been kept by man as domestic creatures, with the object of making them fulfil a rather varied round of characters. Their office has been to afford a ready supply of wholesome food, convenient to have at hand in hot countries, where animal food must be eaten almost as soon as it is killed; to furnish manure, indispensable in the East for the cultivation of the fruits and vegetables most in request there,—the gourd, the melon, and the cucumber; to render efficient and ready services as messengers under circumstances of extremest difficulty; and to be pampered at home as domestic pets, whose value lies in their docility, their beauty, or even in their strange and anomalous peculiarities,

The well-known passage in Isaiah (lx. 8), "Who are these that fly as a cloud, and as the doves to their windows?" establishes the domestication of the Blue Rock Pigeon at the early epoch when the prophet wrote. The "windows" are clearly the apertures in a dovecot; and every reader will remember that windows in the East are seldom glazed entrances for light merely, as with us, but are openings to admit air principally, and the sun's rays as little as possible; and when closed, are done so by lattice-work or shutters, as in pigeon-lofts here: so that the expression, "windows," is very appropriate to denote the means of approach to the creatures' dwelling-place.

The Roman authors on agriculture—Varro, Columella, and even Cato—give copious directions for the management of dovecots, and the modes of fattening pigeons for the table. We may smile at many of the rules they give, as superstitious and contrary to common sense; to us, the interesting fact remains, that pigeon-houses were an important feature in the rural economy of the ancients. The Romans kept domestic pigeons very much in the same way that we do now; and in addition to this were in the habit of catching the wild species, such as the Ring-Dove and the Common Turtle, and putting them in confinement as we do Quails and Ortolans. Fancy Pigeons, too, as distinguished from the dovehouse kinds, which were reared solely to be killed and eaten, seem to have been known from a very early period. It may be believed that we hear less of consequence of the merits of all the others being thrown the different sorts then cultivated and most in favour, in into the shade by the superior usefulness of those employed as letter-carriers. According to Pliny, the Campanian Pigeons were of the largest size, Runts, in fact; while we infer from Columella, that the taste of the Alexandrian fanciers was more in favour of the smaller kinds. The latter writer is sadly scandalized at the inveteracy and extravagance of the pigeon fancy amongst his contemporaries; while the former records the prevalence of a pigeon mania amongst the Romans. "And many," he says, "are mad with the love of these birds; they build towers for them on the tops of their roof, and will relate the high breeding and ancestry of each, after the ancient fashion." Before Pompey's civil war, L. Axius, a Roman knight, used to sell a single pair of pigeons for four hundred denarii, or £12. 18*s.* 4*d.*, as nearly as we can estimate that sum by the modern standard.

But it is as letter-carriers that pigeons have obtained the greatest celebrity among the ancients; and of their services in this capacity we find very frequent and interesting mention. The practice seems to have been adopted in remote times, in modes and upon occasions

the exact counterpart of those which call forth the powers of the birds at the present day. How likely is it that the Patriarchs, remembering the tradition of the ark, in their search for fresh pasture at a distance from the main body of their tribe, may have taken with them a few pigeons to be flown from time to time, and to carry home news of the proceedings of the exploring party! During the last few years, the invention of the electric telegraph has done more to bring Carrier Pigeons into partial disuse, than had been effected in all the three thousand years previous.

In the present treatise we propose to consider pigeons first, in the light of mere poultry stock,—as birds reared to be brought to market,—and afterwards as objects of luxury and fancy, which will include their employment as messengers.

THE KINDS OF PIGEONS KEPT AS POULTRY.

THE BLUE ROCK DOVE.—THE DOVEHOUSE PIGEON.

There are two very distinct varieties of Pigeon, which are kept in large flocks for the supply of the table. Some naturalists regard them as separate species. The first is the Blue Rock Dove (*Columba livia*); the second is the Dovehouse Pigeon (*Columba affinis*, of Blyth). Both are found wild, breeding independently in a state of nature; but the former affects caverns, cliffs, and rocks as its resting-place (whence its name); while the latter seems to prefer the inaccessible parts of public buildings, ruins, and ecclesiastical edifices,—such a home, in short, as the jackdaw would choose. A very permanent difference between the two is, that the Rock Dove has the rump, or lower part of the back, just above the tail, decidedly whitish, while the Dovehouse Pigeon has it of a light slate-colour. This feature is particularly noticeable when the birds are flying, especially if they are in a flock of any considerable number, when it imparts quite a charac-

ter to them as they are wheeling about. A reference to our plates will help the reader to recognise the two varieties much better than any description could do. The general colouring of the Dovehouse Pigeon is considerably darker than that of the Rock Dove. The distinction between them has long been known to dealers, less so to fanciers (who are apt to despise both these species, notwithstanding the exquisite beauty of the latter), and is scarcely acknowledged by ornithologists. The Dovehouse Pigeon is much the more common inhabitant of dovecots, is less capricious in its sojourn therein, and when it betakes itself to a state of complete independence, exhibits much less dislike to the neighbourhood of man, than is shown by the Rock Dove under similar circumstances.

It is to be remarked that these two species are the only kinds of domestic pigeon which ever desert the homes provided for them, and betake themselves to the wilderness. The Fancy Pigeons, the truly tame pigeons, do not reassume, or rather adopt, wild habits, as has been asserted; when they lose their way, or escape from a new, and therefore a distasteful home, they do not betake themselves to the rocks, or to the ruins, but enter some trap or loft, or join some other flock of tame pigeons. The pigeons which do choose to return to a wild condition are always either Blue Rocks or Dovehouse Pigeons, and not Powters, Fantails, or Runts; whereas the Blue Rocks do not voluntarily take up their home in an ordinary pigeon-loft, but, on the contrary, will escape from one that is not to their liking, or is too much interfered with, even if hatched and brought up there by parents of a tamer breed.

A main characteristic in the plumage of the *Columba livia* is the absence of *spots*, which are so remarkable a feature in that of the *C. affinis*. The bill is dark slate-colour, with a whitish cere at the base; it is much compressed about the middle, both in depth and width, a peculiarity which is common to the whole family of pigeons. The head is slate-colour, continued down the

neck and belly, with iridescent hues of green and purple, which are brighter in the male bird than in the hen. The back and wings are paler slate-colour, or a sort of French gray. The quill-feathers are darker towards the tips. Across the wings are two very dark and conspicuous bands, which are formed by a black spot near the end of each of the greater wing-coverts. The rump is whitish: this mark has been greatly, and we think unduly, insisted upon, to prove the derivation of all the Fancy Pigeons from the Blue Rock Dove. We have no room to discuss the question of origin here, but will refer the reader to Dixon's "Dovecot and Aviary," merely observing that the Dovehouse Pigeon, supposed by the same theorists to be derived from the same parentage, fails to display the alleged hereditary mark. The tail is of the same colour as the head, each feather being darker at the portion *near* the end, so as to form a dark semicircular band when the tail is outspread in flight. In all pigeons the feathers of the body adhere loosely, and easily come off; in some species they are detached from the skin by the merest touch. The feet and toes are coral-red, which colour the Arab legend attributes to the birds having walked on the red mud that was left after the subsidence of the waters of the Deluge. The claws are black. The irides are bright orange, shaded to yellow towards the pupil, which is black. The average weight of the Blue Rock Dove is about ten or eleven ounces. The only variety of this bird which we have seen, or have heard of on any authority, are light blue specimens, with the bars on the wings and tail very strongly contrasting with the rest. Such birds are extremely beautiful; and it may be suspected whether many of these are not merely individuals of an advanced age, which have *quite* arrived at their adult plumage.

The Dovehouse Pigeon, or the "Duffer," as it is frequently called, is the victim which has the most frequently to run the gauntlet for its life, in the trials of skill with the gun, called "Pigeon Matches." Blue Rocks will do, but are not so easily to be had in numbers; the low-priced mongrels of Fancy Pigeons are objected to, as

often affording by their colour an unfairly easy mark, and apt to be less bold and dashing in their escape from the trap.

Maritime localities seem to be the favourite haunts of the Rock Dove, whether wild or tame; and as Venus is fabled to have arisen from the sea, so her emblematic and attendant doves are delighted to frequent its vicinity. On the English coast, we have often seen them fly down to the beach, to drink of the small pools of salt water left there by the tide, though plenty of fresh water was to be had within what would be considered for them an easy distance. This taste of theirs for salt demands special notice, and requires to be gratified in inland situations. Rocky islets, and caves in sea-washed cliffs, are known to be of all habitations the most attractive to them. The coasts and innumerable islands of the Mediterranean are still famous, as they have been ever since the historic memory of man, for the plenty and excellence of the Rock Pigeons, which have located themselves in various situations there. On British ground, they live in all the caves on the coast of Sutherland, and are to be seen flitting to and fro from morning to night. A magnificent panorama of romantic scenery might be presented to the reader's imagination, were we only to follow the haunts of the undomesticated Blue Rock Dove.

NATURAL HABITS AND CONSTITUTION OF PIGEONS.

The natural habits and constitution of pigeons are, in several respects, so peculiar, that we deem it right to give a brief account of them, as the most useful rudimental information we can offer to a novice in pigeon-keeping; for it is impossible to manage birds and animals successfully without a knowledge of what their instincts require.

The main difference between pigeons and all other birds that are bred with us for domestic uses is, that the young of the latter have to be supplied with suitable food as well as the parents; and on that supply very much depends the chance of successfully rearing them. No nest

or *permanent* habitation is required for them after they are once brought into the world; merely a temporary shelter by day, and a secure and convenient lodging by night, which, however, may be shifted continually from place to place, with advantage rather than injury to the restless little occupants. This is the case with all the water-fowl which we keep domesticated, as well as with the gallinaceous birds. The Duck and the Goose, as well as the Hen and the Turkey, lead out their young by day to their proper food, any deficiency of which, arising from their not being in a state of nature, is supplied by man; and when rest and warmth are required by the tender brood, the mother herself furnishes all that is needed under the shelter of her wings. Her own personal attentions supply from time to time whatever nest and covering is required; *our* care is, to exercise a general superintendence, and provide them liberally with the necessary articles of diet.

But the reverse of all this is the case with pigeons. The rearing of the young gives *us no* trouble, if the parents can but find enough to eat and drink. Consequently, of all domestic creatures, Dovehouse Pigeons and Rock Doves are the easiest to keep. If you cater for them plentifully, well and good; they will partake of the fare, and give themselves no more anxiety. If you stint them, never mind; they will go further a-field, and forage for themselves, not being over-scrupulous as to the proprietorship of the corn they may eat, or delicate about committing a trespass. But if your allowance is quite too pinching, and the neighbours wage a determined war against all pilferers, then the pigeons will pluck up their resolution, and emigrate to some new home, where better treatment awaits them; for a home they *must* have. With that tolerably adjusted, and a decent allowance of food from you, they will, by their own industry, with little further interference, increase so rapidly, and produce so large a supply of flesh for culinary purposes, that there are cases in which the phenomenon strikes one with perfect astonishment.

Young pigeons, when first hatched, are blind, half-

naked, weak, and helpless. They are fed, nearly till they are able to provide for themselves, entirely by their parents. The aliment necessary for their feeble organs, during their earliest stage, is elaborated in the crop of the old birds just before hatching, who administer it according to their instinctive knowledge of the fit intervals. All we have to think of, is to see that *they* suffer no deficiency of their accustomed rations. But with such utterly dependent younglings, a fixed and safe household establishment is the thing without which all other comforts are worthless to them. A HOME is the first indispensable requisite.

MATING AND NESTING.

Pigeons are what is called platform-builders; that is, they make a flat slight nest of sticks, straws, and bits of dry grass, laid together with as little art or trouble as it is possible to conceive in thinking of a bird's nest. Some pigeons' nests are so flat and slight, that it is a marvel the eggs do not fall off or through them. All pigeons lay two eggs, with one anomalous exception,—the Passenger Pigeon, which appears to lay but one whenever it has bred in an aviary in this country. The "mating" of pigeons is another important point in their natural history. When young pigeons are about six months old, or before, they begin to go in pairs, except when associated with the entire flock at feeding-times; and when they are resting on the roofs, or basking in the sun, they retire apart to short distances, for the purpose of courtship, and pay each other little kind attentions, such as nestling close, and mutually tickling the heads one of another. At last comes what is called "billing," which is, in fact, the kiss of a bird. As soon as this takes place, the union is complete. The pair are now united companions, not necessarily for life, though usually so; but rather, so long as they continue satisfied with each other. If they are Rock Doves, they scour the country together in search of distant provender; if they are Tumblers, they mount aloft, and try which can tumble best; if they

are Powters, they emulate one another's puffings, tail-sweepings, circlets in the air, and wing-clappings; while the Fantails, the Runts, and all those kinds which the French call *pigeons mondains*, or terrestrial pigeons, walk the ground with conscious importance and grace. But this is their honeymoon,—the time for the frolics of giddy young people. The male is the first to become serious. He takes possession of some locker or box that seems an eligible tenement. If it is quite empty and bare, he carries to it a few sticks and straws; but if the apartment has already been furnished for him, he does not at present take much further trouble in that line. Here he settles himself, and begins complaining with a sort of moaning noise. His appeal is sometimes answered by the lady affording him her presence, sometimes not; in which latter case he does not pine in solitude very long, but goes and searches out his careless helpmate, and with close pursuit, and a few sharp pecks if necessary, insists upon her attending to her business at home. Like the good husband described in Fuller's "Holy State," "his love to his wife weakeneth not his ruling her," and "his ruling lesseneth not his loving her." The hen obeys, occasionally, however, making, or pretending to make, some resistance; but at last she feels that she ought to discontinue general visiting and long excursions: she enters the modest establishment that has been prepared for the performance of her maternal duties. A day or two after she has signified her acceptance of the new home, an egg may be expected to be found there. Over this she (mostly) stands sentinel, till, after an intervening day, a second egg is laid, and incubation really commences; not hotly and energetically at first, as with hens, turkeys, and many other birds, but gently and with increasing assiduity.

AID AFFORDED BY THE COCK.

And now the merits of her mate grow apparent. He does not leave his lady to bear a solitary burden of matrimonial care, while he has indulged in the pleasures

only of their union. He takes a share, though a minor one, of the task of incubating; and he more than performs his half-share of the labour of rearing the young. He feeds her while she is sitting, and gives her drink from his crop, which he has flown to fetch from the pond or the brook; even at other times he will often give her a morsel which he purposely regurgitates that she may take it from his faithful bill. At about noon, oftentimes earlier, the hens leave their nests for air and exercise as well as for food, and the cocks take their place upon the eggs. If you enter a pigeon-loft at about two o'clock in the afternoon, you will find all the cock birds sitting,—a family arrangement that affords an easy method of discovering which birds are paired with which. The females are to be seen taking their turns in the same locations early in the morning, in the evening, and all the night. The older a cock pigeon grows, the more fatherly does he become. So great is his fondness for having a rising family, that an experienced unmated cock bird, if he can but induce some flighty young hen to lay him a couple of eggs as a great favour, will almost entirely take the charge of hatching and rearing them by himself.

HATCHING, AND YOUNG.

At the end of eighteen days from the laying of the second egg (but the time cannot be invariably fixed within several hours) a young one will appear. Subsequently, at a short but uncertain interval, sometimes comes another chick, sometimes remains an addle egg. Of young things, babies included, a new-hatched pigeon ranks among the most helpless. Most little birds, if blind, if weak, can at least open their mouth to be fed; but these actually have their nutriment pumped into them. They have just instinctive sense enough to feel for the bills of their parents; they will make the same half-conscious movement to find the tip of your finger, if you take them in your hand. And this act of pumping from the stomachs of the parents is so effi-

ciently performed, as to be incredible to those who have not watched the result. A little pigeon grows enormously the first twelve hours; after the third day, still more rapidly; and for a time longer, at a proportionate rate. If it do not, something is wrong, and it is not likely to be reared at all. The squab that remains stationary is sure to die. Sometimes, of two squabs, one will go on growing like a mushroom or a puff-ball, and the other will keep as it was, till the thrifty one weighs six or eight times as much as its brother or sister on which the spell of ill-luck has been laid.

The young are at first sparsely covered with long filaments of down; the root of each filament indicates the point from which each stub or future feather-case is to start. The down, for a while, still hangs on the tips of some of the feathers during their growth, and finally, we believe, does not drop off from them, but is absorbed into the shaft of the growing feather. This down, attached to the tips of the feathers, is a sure sign that birds are young, when purchasing any for table use. No domestic birds afford such good opportunities of observing the growth of feathers as pigeons.

HENS PAIRING.

The pairing of pigeons is a practice so strictly adhered to by them, that if the number of male birds in a dovecot is less than that of females, the supernumerary hens will pair with each other, and set up an establishment for themselves; if the males are in excess, they will make an excursive tour in search of a mate, and either remain with her at her residence, or, which is just as frequently the case, will bring the lady with them to their own home. The unmated hens that thus enter into partnership will go through all the ceremonies of pairing, make a nest, lay two eggs each, sit alternately and carefully, and, if they are members of a large flock, very often rear young. The frequent occurrence of this circumstance proves that the conjugal fidelity of the male birds at least has been somewhat exaggerated. But the two eggs of the pigeon

produce one male and one female chick in so nearly an invariable manner, that any disproportion in the sexes, by which these aberrations from ordinary rules are caused, arises rather from disease or accident than from any chance result of the hatchings.

RE-MATING.

When a hen pigeon has the misfortune to lose her mate by gunning or trapping, she is certainly uncomfortable for a while, but not inconsolable. She does not go pining on in solitude for long, refusing to be comforted. When she finds that her partner is for ever gone, she resigns herself to her fate, and takes up with another, whom, however, she would probably desert were her first love, the original mate, by some fortunate chance to make his reappearance.

VERY HOT-BLOODED.

The high temperature of living pigeons ought to be noticed here. When handled, especially in a partially fledged state, they feel quite at fever-heat. The blood, fresh-drawn from the living bird, was a most *virtuous* remedy with the old practitioners; and Willughby informs us, that "a *live pigeon* cut asunder along the back-bone, and clapt hot upon the head, mitigates fierce humours and discusses melancholy sadness. Hence it is a most proper medicine in the phrensie, headache, melancholy, and gout. Some add also in the apoplexy. Our physicians use to apply pigeons thus dissected to the soals of the feet, in acute diseases, in any great defect of spirits, or decay of strength, to support and refresh the patient, that he may be able to grapple with and master the disease. For the vital spirits of the pigeon still remaining in the hot flesh and blood, do through the pores of the skin insinuate themselves into the blood of the sick person now dis-spirited and ready to stagnate, and induing it with new life and vigour, enable it to perform its solemn and necessary circuits." The modern substitute for a live pigeon cut asunder would be perhaps

a hot foot-bath, or even a mustard plaster, or a simple poultice.

RAPIDITY OF GROWTH.

It is worth while comparing the rapidity of growth in young pigeons with that of the gallinaceous birds which serve us as food; and we will quote an instance taken from actual observation. On the 27th of June, a blue Owl, mated with a Nun, hatched one squab. The second egg, being clear or unfertilized, had been taken away from them some days previously. The egg producing this chick had been cracked, three or four days before hatching, by a blow from the Owl's wing, given in anger at its being handled for the sake of examination. The squab had grown *much* in the few hours that intervened between its exclusion and the time of its being observed. It was blind, and covered with long yellow cottony down. In the afternoon of the 1st of July, it first opened its eyes to the light. Now, the average weight of a domestic pigeon's egg is about half an ounce; rather more for the larger breeds, as Runts and Powters, and rather less for the smaller ones, such as the parents of our present squab.—A Collared Turtle's egg weighs about a quarter of an ounce; but on the 3rd of July, this little creature, which on the 27th of June would hardly balance a half-ounce weight, now weighed *four ounces and a half*, and its feathers, or rather its feather-cases, were pricking through its skin like a hedgehog's spines. On July 9th, its weight was ten ounces; only one parent attending it: July 18th, eleven ounces and three-quarters. The growth seemed now principally directed to the quill feathers, which accounts for its less rapid increase in weight. July 26th, the weight of the squeaker was twelve ounces and a quarter; it was capable of flying, and feeding itself, and only wanted strength and a little corroborative time to be a perfect independent adult bird. At the same date of July 26th, the weight of the Owl, its male parent, was only eleven ounces and a half; so that, in about a month, its own young one had exceeded itself in weight. It

takes many quadrupeds several years to attain the bulk of their parents; the chick of a common hen, at the end of a month from hatching, is very far indeed from equalling its mother in weight; but, in the case of pigeons, we have the enormous increment of growth from half an ounce to twelve ounces and a quarter within that short period. The wonder is accounted for by the knowledge that, for the first fortnight, the squab has the assistance of two digestions in addition to its own; and that, during the month, it has to undergo little or no exertion of body or brain, but merely to receive a liberal supply of ready-prepared nutriment.

DOVECOTS.

Of dovecots, a great variety exists, in different styles of architecture, sometimes standing isolated in the midst of a lawn, sometimes forming the corner turret of a square of farming buildings, a courtyard, or a garden wall. We are acquainted with one instance in which the dovecot belonging to the estate consists of an arch thrown across the road, the pediment and the upper portions of each pier being tenanted by pigeons. The picturesque effect is really very good, and the birds thrive well, and evidently enjoy the vicinity of a lake, which serves them as a convenient watering and bathing place. But the old manorial dovecot, belonging to bygone days, is a substantial cubical building, with a pyramidal tiled roof, surmounted by an unglazed lantern, through which the pigeons enter and descend to their nests. It frequently forms the upper half of a square tower, and then can only be entered by a ladder from without, the lower half being used as a cowhouse, cart-shed, or root-house. It is usually solidly built of either brick or stone, and the interior fittings are of brick also: nesting-places are thus made to occupy the four entire walls, except where the opening for the door prevents them. The place gets cleaned out twice or thrice in the year, and is very snug;

but as the young ones which die in their nest are not removed immediately, as they ought to be, the smell is sometimes very offensive within, and may even be productive of injury to the birds. But those gentlemen who reside in a rocky district might contrive the most picturesque of all dovecots (of which an example existed, and may still exist, near the Château de Valgon, in France), by hollowing out a space in the face of a cliff, and fashioning the entrance as nearly like a natural cavern as possible. A few pairs of Rock Doves once settled there in lockers hewn in the rock itself, would indeed feel themselves at home; and if an elevated spot were selected, their outdoor proceedings, their journeys to and fro, would be observable from the mansion and pleasure-grounds generally, and could not fail to form an agreeable point of view.

CONVENIENCE OF DOVECOTS.

"No man ever need have an ill-provisioned house," says Olivier de Serres, "if there be but attached to it a dovecot, a warren, and a fishpond, wherein meat may be found as readily at hand as if it were stored in a larder. Wherefore our father of a family, having set in order his arable lands, his vineyards, and his pastures, and arranged his henroosts, will hasten to set himself up with pigeons, rabbits, and fish, in order that, being provided with these viands, he may nourish his family in noble style, and give good cheer to his friends, without putting his hand into pocket." Certainly, a vast pigeon and rabbit pie is a most useful standing dish in a country house, both for the members of the family and for chance droppers-in; and then, says Olivier, if the pigeon-house is properly managed, there will always remain somewhat *to sell*, over and above what is consumed at home.

We will give a brief abstract of the ideas about dovecots, which were entertained by that respectable old French writer, translating and condensing it from the quarto edition of his "Theatre of Agriculture," of 1675.

OLIVIER DE SERRES'S DOVECOT.

"In the first place, speaking of the dovecot, I will say that three things must be combined in order to have the enjoyment of this kind of diet: the lodging, the pigeons, and their management. The disposition of the pigeon-house is of no very great consequence; for whether placed inside the house or outside it, made little or great, fashioned in whatever shape you please, you will always have pigeons there, if the breed of the birds be but good, and they be well fed; but you will have them in much greater abundance if it be erected by itself in the open fields, and made large and spacious, to suit the nature of pigeons, who take much more delight in quietude and a roomy lodging, than in a narrow and choked-up place, as is evidently observed in those natural grottos and caverns in rocks, wherein, on account of their unusual magnitude, resembling magnificent temples, the pigeons retreat in mighty flocks. Experience teaches that a great dove-cot is better in its greatness than a little one is in its littleness.

"As to its shape, although all are good, I hold the round ones to be the best of any, principally because the rats cannot so easily climb up, and also because the central ladder, turning on a pivot, enables you to approach all the nests without leaning against them. We will fix the situation of the dovecot in a sheltered spot, as little exposed to high winds as possible, detached from all the other buildings of the mansion, in order to be retired from noise and the attack of rats; and standing within the inclosure of the vineyard or the garden, to be safer from thieves; built with a high ridged roof, in order to be seen from a distance; out of the way of trees, both to avoid the noise of their branches when agitated by the wind, and the danger from birds of prey which conceal themselves there; distant a couple of arquebusades from the water which is to supply the pigeons with drink, that distance being esteemed the best, because the parent birds,

who go to fetch drink for their young, will warm it on the way to a proper degree of temperature.

"In regard to the size of the pigeon-house, we would give it three or four *toises* [fathoms] of diameter, whether round, square, or any other figure, as hexagonal or octagonal. Its height should be one-fourth more than its width. Its roof should project, to throw the water off; and beneath these projecting eaves should be cornices and galleries, for the birds to repose and sun themselves, according to the weather and the direction of the wind. The best material for the nest is baked clay, such as tiles and other pottery, which are neither so cold as stone in winter, nor so warm as wood in summer; but of whatever material made, the nesting-places should be large and spacious. As I said of the dovehouse itself, it is better to fear excess in smallness than in greatness. If there is any fault in this respect, do not be surprised if the pigeons abandon the dovecot. Pigeons, during their laying and hatching, and also the little ones till they leave the nest, are especially fond of a retreat which is dark rather than light. Wherefore, in France, pigeons' nests are often made with flat bricks or pavements. In Provence, Languedoc, and the environs, the nests are often made with round tiles, that serve for water-pipes. The first row of nests should be at least three or four feet above the ground."

These few practical directions are sufficient to guide any one in *building* a dovecot.

HOW TO STOCK A NEW-BUILT DOVECOT.

It is not easy to *stock* a dovecot for the first time. Over and over again birds may be placed there; they may settle, and be apparently content for a time, and then the unexpected discovery will be made that not a single bird is left; consequently, several modes of colonizing an empty dovecot have been recommended. The following, perhaps, is one of the best:—

As soon as the dovecot is fitted up completely, both inside and out, if it be summer-time, or, what is better,

very early spring, select a sufficient number of pigeons of the former year, and early-hatched birds as far as possible. The more numerous is the colony which you try to fix in their new home, the greater will be the chance of their settling there. They ought not to be procured from a shorter distance than six or eight miles, for fear that the sight of their old haunts and companions should tempt them back again, even after the lapse of several months. If they can be obtained from quite a distant part of the kingdom, it will greatly increase the chance of success. We even recommend that young birds intended to stock a dovecot, whether Rock Doves or Dovehouse Pigeons are required, be procured from the north of France. They are so much cheaper there than in England, that the difference of price will aid considerably in paying the cost of their passage; the interposition of the English Channel between their new and their native home will greatly diminish the probability (though it will not entirely remove it) of their returning; and birds of both those species are decidedly finer on the Continent than in the British Islands. Were we ourselves about to stock a dovecot, we would unhesitatingly determine to do so with pigeons from France. After every window and outlet of the dovecot has been closed by wire grating or lattice-work (to permit a sight of the country outside, although escape is impossible), the new arrivals will be turned loose inside, and well provided with fresh water, corn and peas, and a pan of salt. The floor of the dovecot will have been strewn with gravel or sand, and calcareous earth of some kind. They must be fed punctually every day, at the same hour and by the same attendant. After three or four days they will expect his arrival, and get used to his presence without manifesting alarm. Of course this office should be deputed to the person who is intended hereafter to take charge of the dovecot. Birds of that age, shut up in confinement, and liberally supplied with food and drink, with no long journeys to exhaust them, will soon begin to think of making their nest. For this purpose, a few sticks and

straws should be scattered on the floor; the pigeons will select and arrange them themselves. It may help to hasten the period of their laying if they are fed with a *little* hempseed, mixed with cumin, anise, caraway, or the seeds of other umbelliferous plants, whose native spots are dry and chalky soils. As soon as it is observed that the greater number of the birds have laid, and that a few of them have young ones hatched, the wire-work or lattice may be removed, and the parent birds will follow their accustomed habit of going out to seek for food for their progeny. Their attachment to their eggs and young will prevent them from deserting the compulsory nesting-place. Meanwhile, food will still be provided for them, within the dovecot, for a short time longer; but little by little the quantity may be diminished, and after the hatching of the second laying, it will not be requisite to continue the supply. By this method of management, both the parents and their offspring will be settled in the dovecot. After the second laying, the old ones will give up all thoughts of deserting; and the young ones, knowing no other home, will be free from any temptation of the kind. All this, however, supposes that their natural tastes and habits are consulted, and that they are neither annoyed by rats, weasels, cats, guns, strange pigeons, nor troublesome human visitors, every one of which is a source to them of considerable annoyance. If the birds are made uncomfortable, they will quit their habitation, one and all. Still, the circumstance that a dovehouse has once been peopled, renders it likely that its old tenants may return to it whenever some caprice disgusts them with the new quarters to which they have shifted. Temminck gives an instructive instance of the effect of making a Rock Dove's home comfortable.

"The proprietors of a farm in France went to occupy it themselves, after it had been held by a tenant for a lease of nine years. They had left the pigeon-house amply stocked, but they found it deserted, dismantled, filthy, and occupied by every enemy of the poor fugi-

tives. They took no further pains than to whitewash the pigeon-house within and without, to restore the dilapidations of the interior, to have it cleaned out perfectly, and to keep abundance of water and salt therein. The pigeon-house was replenished with birds as if by enchantment; so much so, that when the owners again quitted their estate, there were more than a hundred and fifty pairs of pigeons, which, moreover, were supplied with scarcely any food. Three years was all the time required to work this change, and even to attract deserters from the pigeon-houses for three miles round."

The Blue Rock Dove is naturally and inherently very much shyer than any other of our domestic pigeons, and its disposition and native instincts *must* be consulted, if we really wish to retain it under our control. Too much noise and bustle will certainly disturb the flock. It is even recommended (as we have seen) not to build a dovecot in the neighbourhood of tall trees, because the birds dislike the sound of the wind roaring amongst the branches. Perhaps a better reason for the same advice may be, that the dovecot is thereby hid from their sight when they are out on long excursions. No wise man would build a dovecot on the edge of a crowded thoroughfare, or by the side of any highway road which is constantly thronged with passengers and traffic to and fro. One point of etiquette to be observed with dovecots is, never to enter abruptly, or without having knocked two or three times at the door, in order to allow those birds which are the shyest, time to fly away, instead of making them dash about the interior in alarm, raising a great commotion and dust, injuring themselves, frightening any quieter birds that may happen to be incubating, and probably causing numerous desertions afterwards. These minute observances, combined with great cleanliness and attention, are requisite to perfect success in the management of a dovecot. The most skilful superintendent will be sure to derive the greatest profits. Dovecots, like warrens, decoys, and fishponds, will cause nothing but disappoint-

ment in ignorant and unskilful hands, whilst with those who really understand them they are a certain source of amusement and advantage.

Supposing the birds to be really settled in their home, although no grain will be thrown down to them within the dovecot (for that would be entering their citadel far too frequently to meet their approbation), it will still be right to give them a little every day on some spot close to their home. It is good to accustom them to come, morning and evening, at the sound of a whistle. There is no need to give them anything at noon; they will then be either basking in the sun, or out foraging in the fields. The only object is to attach them to their domicile; for it is not true that the Blue Rock Dove is always "contented with the food given it at home." Buffon was completely in error when he supposed it to be one of those creatures who would become so dependent upon the hand of man, and so accustomed to receive food of his providing, as rather to die of hunger than to search for subsistence. In *them* at least, the sentiment of liberty is not destroyed, nor have *they* lost the instinct of exercising the arts and resources which necessity inspires. The Rock Dove makes rather a favour of the meals which it consents to take at home, and will, whenever so minded, stray far and wide in search of provender. Powters and Fantails may be satisfied to lead an idle life, and to subsist on what is offered to them without exertion; but the free and energetic Blue Rock Dove delights to earn for itself its daily bread, and prefers the ration gained by independent toil to the feast held out to it as a temptation to sink into a condition of indolent servility.

It is a secret worth knowing, that Blue Rock Pigeons are fond of living in *large* societies. He who *has* most of these birds will be sure to *continue to have* most, from desertion, as well as from increase. They decidedly prefer associating with their own counterparts and congeners, to mingling on easy and equal terms with tame pigeons of more steady habits. Persons who keep a

pure stock of Blue Rocks are averse to the intrusion of any of the fancy kinds: this may be merely intended as a precaution to maintain the purity of blood; but the rule may be a traditional one, suggested by the fear, lest the presence of those unwelcome strangers should drive the wilder birds to seek other haunts, where they may remain undisturbed by the sight of new faces. A fancier of repute remarked, that when the common tame sort are made to mix with the Blue Pigeon in the same dovecot, in order to increase the size of the progeny, *care must be taken not to select them of glaring colours, for the rest will not easily associate with them.* The best plan is not to allow of any such mixture at all.

A curious and authentic anecdote confirms what we have here stated respecting the innate shyness of the Blue Rock Dove. We quote it from "The Dovecot and the Aviary."

"I had purchased a pair of Nuns, supposing them to be male and female; they proved a couple of hens, laying conjointly four eggs, and commencing incubation in the regular family style, exactly as in a former work I have stated that two female swans will do, if they cannot find a mate of the opposite sex. To incubate four probably unfertilized eggs was a waste of vital warmth; so we removed these, and substituted a couple of Blue Rock Pigeon's eggs, which were kindly supplied to me by a neighbour who has a pure and choice stock. Two birds were reared, and they remained in company with the other pigeons in the loft. During this time they were certainly shyer and wilder than other squeakers of the same age, and avoided as much as they could the society of the rest of their companions. Our whole stock of pigeons then—a miscellaneous lot about four and twenty in number—had never been flown, but were kept constantly in confinement. When the Blue Rocks were about two months old, it was hoped that the other birds had become sufficiently attached to their home to be allowed to take a little outdoor exercise, and it was never suspected that any caution need be exercised with

young birds hatched upon the spot. So one evening the prison door was thrown open; circle after circle was traced in the air; great was the clapping of wings, and proud were the struttings upon the roof-ridge. But our confidence was not abused, though some of them were old birds, and had been brought from a former home. They all re-entered their loft, except one or two that could not find their way in on this first indulgence with liberty, and which were taught the mode of entrance on the occasion of a subsequent airing;—all, *except* the strongest Blue Rock, the other not being yet able to perform long and continued flights. Instead of entering the house at reasonable supper-time, it stayed out all night. It honoured us for a short time afterwards by spending the night on the roof of the house; where it passed the day, or how it fed, we knew not. At last it took its departure for good and all, and we subsequently learned that it had joined the parent colony, consisting of Blue Rocks only, about a quarter of a mile distant, from which it had been brought *in the egg*.

"I have since induced a few of these birds to stay with me, but only by placing their eggs under other pigeons to hatch in my own loft. All attempts to get young Blue Rocks to settle with the rest of my flock have failed. They have always left us as soon as they had sufficient strength of wing to do so. My neighbour's Blue Rocks often pass over our house, but they never alight to make the acquaintance of the pigeons here. The most they do is to sink gracefully a little in their course, without altering its direction, and at once continue their journey to some distant field."

In the East, Carriers seem to be kept as Dovehouse Pigeons; in England, the Blue Rocks would answer as letter-carriers better than many of the fancy kinds. The range throughout which they traverse is so exceedingly extensive, that they would find their way from any moderate distance without difficulty. They would be excellent messengers to be employed by lovers residing in neighbouring parishes, or to announce the actual

occurrence of any expected family crisis. The ancient Romans had the practice of sending off *their* Dovehouse Pigeons from the midst of the crowded amphitheatre (which had no roof), to order an additional dish on the supper-table, or to say how many guests were coming to sup.

PIGEON LAW.

Private property in pigeons is more strictly protected by English law, and any infringement of it is more severely punishable than is generally imagined. The 7th & 8th Geo. IV., c. 29, s. 33, which repealed former Acts, tells us, "And be it enacted, That if any person shall unlawfully and wilfully kill, wound, or take any house-dove or pigeon, under such circumstances as shall not amount to larceny at common law; every such offender, being convicted thereof before a justice of the peace, shall forfeit and pay, over and above the value of the bird, any sum not exceeding *two pounds*." By the 67th section of the same Act, the magistrates may, in case of default in payment of value and penalty, commit for any term not exceeding two months.

A lord of a manor may build a dovecot upon his land, parcel of his manor; but a servant of the manor cannot do it without license.

It hath been adjudged that erecting a dovehouse is not a common nuisance, nor presentable in the leet.

If pigeons come upon my land, and I kill them, *the owner* hath no remedy against me; though I may be liable to the statutes which make it penal to destroy them.

Doves in a dovehouse, young and old, shall go to the heir, and not to the executor.

In France, Article 564 of the Civil Code, enacts, that pigeons, rabbits, and fish, which go into another dove-house, warren, or pond, belong to the proprietor of the aforesaid places, provided they have not been decoyed thither by fraud and artifice.

It is certain that Dovehouse Pigeons were kept for

use and profit at an early period of English history. In the year 1305, there was a canon made by Robert Winchelsea, Archbishop of Canterbury, and his clergy, whereby it was declared, that all and every parishioner should pay honestly and without diminution to their churches, tithes *of pigeons*, amongst other things, on pain of excommunication; although the claims of the clergy on these birds do not seem to have been universally acknowledged in England. Degge's "Parson's Counsellor" indicates somewhat of a middle course: "Of young pigeons in dovecots, or in pigeon-holes, about a man's house, tithes shall be paid if they be sold; but if they be spent in the family, no tithe shall be paid for them."

DOVECOTS LESS FREQUENT THAN FORMERLY.

In many districts of England, at the present day, it is not very common to meet with an old dovecot stocked with the real *Columba livia*. The place of the beautiful Blue Rock Dove is now mostly occupied by a few pairs of unsightly mongrels. The species itself, although not rare, is far from being so frequent in a domestic state as it used to be; and it looks as if the more general tillage of the land, and the increase of population in many parts of the kingdom, had driven the birds away to take refuge in a quieter home, find wilder districts to traverse in their foraging excursions, and leave the old nesting-places to be occupied by a more tame-spirited and indolent race. So that an ancient dovecot, well filled with a thriving and permanent colony of Blue Rock Pigeons, is really an aristocratical affair; and it ought to be maintained in the same manner as the old oaks and elms, or the rookeries and heronries, belonging to an estate. An inspection of the provincial game and poultry shops will show that a large proportion of the young pigeons now brought to table in England are not Blue Rocks, but Dovehouse Pigeons, besides Powters, Tumblers, and foul-feathered or cross-bred birds of other tame kinds. Many Tumblers are sold dead for sixpence or ninepence each, which,

if suffered to survive till they were adult, would fetch in London very fair prices from amateurs.

PARASITIC ENEMIES.

Dovecots, and the pigeons which inhabit them, are sometimes infested with mites, lice, and a parasitic insect of larger size, all which cause great annoyance to the old birds, and sometimes even destroy the young squabs by getting into their ears and eyes, and irritating them to death. A little snuff sprinkled over the birds and into the nest will afford a temporary relief; but the nuisance is the result of want of cleanliness, and must be thoroughly eradicated by burning the infected nests, whitewashing the inside of the dovecot with lime and water, washing even the nesting-places either with whitewash or with tobacco-water, and by taking care not to let the dung of the birds remain too long before it is removed. The parasitic insects found on birds are peculiar species, which do not fix themselves on the human skin; there is, therefore, nothing to apprehend in undertaking the task of cleaning out a dovecot, although a long course of neglect will make it an unpleasant one. Fleas mostly abound in dovecots; whitewash is the best preventive. Pigeons are occasionally destroyed by the attacks of insects *from within*. Corn, bran, or pollard, that has been kept long, and is become *mity*, or full of mites, should never be given to pigeons or other poultry to eat, without having been first boiled or baked, to make sure that the mites are deprived of life.

In a newly-established dovecot, *no* young ones should be killed to eat the first year. A little patience in allowing the population to increase will be amply rewarded by the plenty of birds which will be subsequently disposable. Afterwards, it will suffice to leave the "flight" of July or August untouched, to keep up the stock for future years. Five or six pairs of young, and even more, in favourable seasons, may justly be calculated upon from each couple of parent birds. The only point on which we presume to differ from Olivier is, his advice to weed the

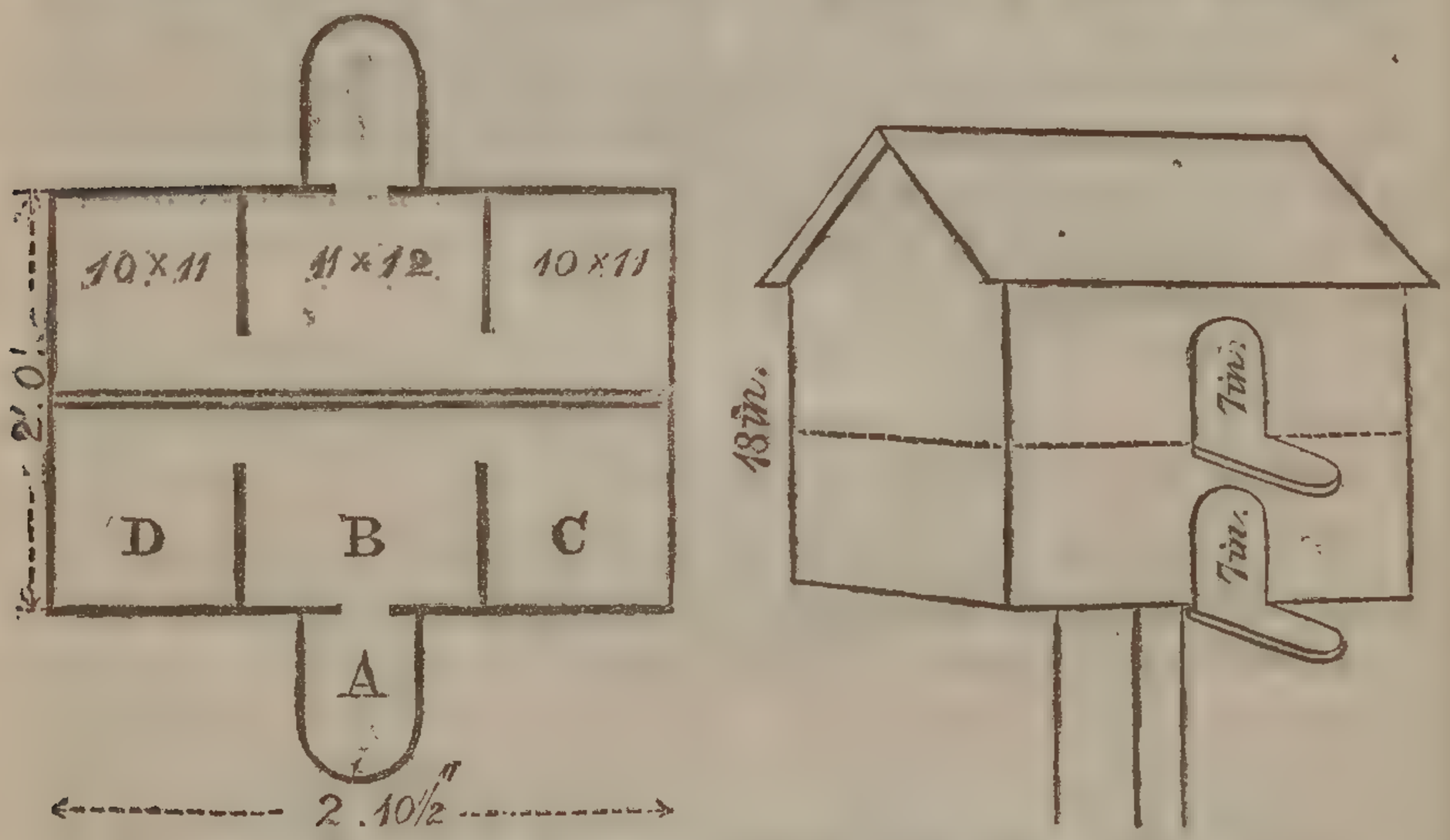
dovecot of aged birds; *we* recommend their being allowed to remain unmolested to the very last moment of their natural life.

POLE-HOUSES AND LOCKERS.

The large solid-built dovecot, of brick or stone, is properly the appurtenance of the hall, the manor-house, and the extensive farm. It implies the possession of certain rights over a considerable area of land, and is altogether more or less aristocratic in its character. This kind of dovecot, according to our judgment, ought to be stocked with the Blue Rock Dove exclusively, to the utter banishment of every other breed. If it admits even Dovehouse Pigeons to inhabit it, it drops somewhat of the pretensions which it ought to maintain. But for small farmers, villa residents, and the dwellers in country houses with but little land belonging to them, there are what may be called minor dovecotes, second or third-class pigeon-houses, in which the birds are entirely free, though more frequently liable to disturbance than in the former case. For all these the Dovehouse Pigeon, or *Columba affinis*, is the most appropriate tenant. Of the small lockers nailed against a wall, and consisting merely of a few planks and pieces of board to form a slight shelter, with a hole for entrance, it may be said, in criticising them, that they are subject to every variation of the weather, are ill-sheltered from pelting rains and stormy winds, and allow but little control over the birds themselves. They do not afford accommodation enough to admit of the pigeons' forming a large society, which will often prove the cause of desertion; and they are rarely contrived on the principle (to be more fully noticed) of having *two* nesting-places accessible to each pair of birds. In such cramped and uncomfortable lockers, a frosty night happening early in autumn, or late in spring, will sometimes destroy all the squabs that are under three weeks old. In the West of England, a vast improvement on the wall-locker is commonly seen attached to the farm-houses. The entire gable-end of some stable

or barn is prolonged by a sort of brick-work honeycomb, which serves as a set of permanent lockers. The birds are better sheltered there, and can live in a more numerous colony. But still, many defects remain; and we do not advise the locker system to those who can keep pigeons in any other way.

A better, but still defective plan, is the conversion of an empty barrel into a dovecot, by dividing it into cells, in two, three, or more stories, according to its dimensions, and elevating it upon a pole in the air. Elaborate designs have been given for building aerial dovecots upon this plan; but all are open to the one great objection, that each pair of pigeons occupies but one cramped nesting-place. The best pole-house with which we are acquainted is that of which a plan and elevation are given in the accompanying cuts (*see fig.*). A pair of birds take pos-



Plan and Elevation of a two-storied Pole Pigeon-House, to accommodate four pairs of birds.

session of the suite of apartments whose landing-place is marked A. They will probably pass through the vestibule B, when they first bring in straws for a nest, and deposit them in one of the chambers, as C. When the young are a fortnight or three weeks old, the hen will probably leave them mostly to the care of the cock, and

make a fresh nest, and lay in the opposite apartment, D. As soon as the first pair of young are flown, C will be vacant for the hatching of a third brood, and so, by shifting alternately from parlour to study, and never being idle, a good pair of birds will produce quite a little flock by the end of the summer.

It is easy to make use of this arrangement on a larger scale, or to apply it to the triangular frames of lockers which are fixed against barns and other out-buildings. But pole-houses are much safer than lockers are from the attacks of cats, rats, and fowl-stealers. Rats, indeed, are among the most destructive enemies of the dovecot. They break the eggs, devour the squabs, frighten the birds while they are asleep (for their onslaughts are almost always made by night), and, finally, drive the pigeons to emigrate and seek a safer home elsewhere.

PIGEON-LOFTS.

For by far the great majority of pigeon-keepers in England, a pigeon-loft affords the most convenient and manageable means of maintaining a stock of useful and ornamental birds. It may easily be made to combine the rearing of pigeons for the table (although not the Blue Rock Dove) with the keeping of merely fancy kinds. In short, we speak of a room or chamber (if one or two contiguous ones can be had, so much the better), which shall be appropriated to these purposes, which can be closed or opened at the pleasure of the owner, containing also separate cages for special purposes, and, in short, all the apparatus requisite for the systematic practice of breeding, and of regulating the pairing and rearing of the inmates, according to determinate rules.

CHOICE OF SITUATION.

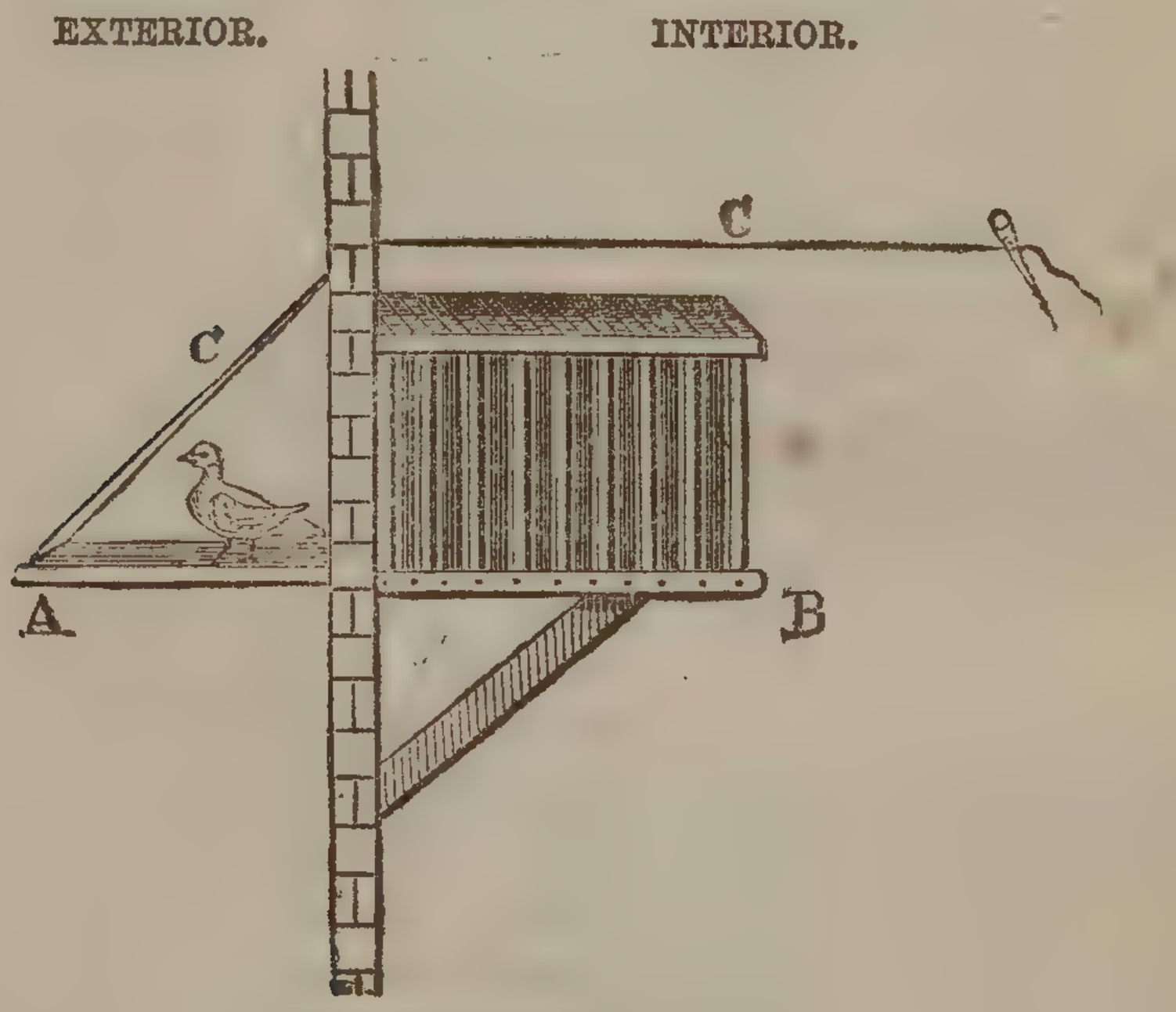
The apartment in one's house, or in the out-buildings attached to it, which can be most conveniently appropriated as a pigeon-loft, is seldom open to much choice.

Where a selection can be made, a sheltered and sunny aspect is most desirable; a lofty situation is especially eligible for town-resident amateurs, who would also find the advantage of having some high stack of chimneys or conspicuous whitewashed gable near, to mark the spot. It will prevent the loss of many a young inexperienced bird, which may happen to stray during the first excursions which it makes abroad, and will even help the old ones to return, if they happen to be caught in a fog, or are buffeted by a sudden gale of wind. An adequate amount of window-light is wanted, more for the pleasure of the owner than for the requirements of the birds, whose nature it is to prefer obscure retreats and caverns for their home and their breeding-place. Pigeons can *see* to feed late after sunset, when it is quite dusk, and when other domestic birds would cease to search after food. The power of sight which they possess in distinguishing clearly objects at a distance, seems extensible also to minute particles that are but faintly illuminated, or which lie in almost perfect darkness. Their eye is convertible from a telescope to a night-glass.

FITTINGS OF THE PIGEON-LOFT.

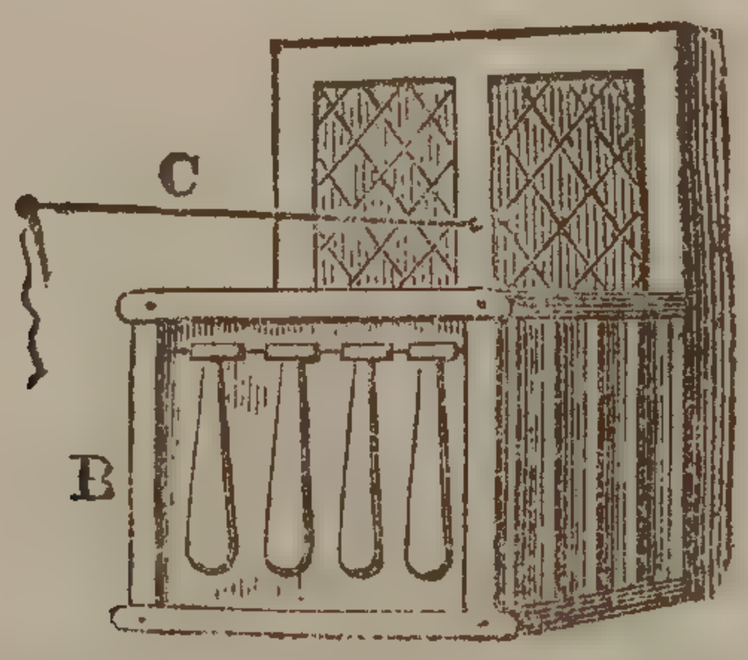
The main external feature of the pigeon-loft is the trap; and none can be better than a projecting box. An old tea-chest has often served the purpose efficiently, with the sides, top, and bottom either quite closed and boarded in, or made of lattice-work, the back opening into the pigeon-loft, and the front consisting of a latticed door, or rather a drawbridge, conducting the birds to the open space in which they are to exercise their powers of flight (*see fig.*). In the trap of which we give a figure, and which is copied from one in actual use, there exists a difference from the generality of traps, in that only the outer door, or drawbridge, of this trap is *outside* the building. The advantage gained by the arrangement is a greater neatness of outside appearance, and less danger of the trap's being injured by high winds, the fall of bricks or tiles, a blow from the shifting of a ladder, or

other mischief; on the other hand, it is a less conspicuous mark for the pigeons than if the whole box were visible outside, which must be confessed to be a serious objection, and a sacrifice of utility to external look.



PIGEON-LOFT.

A. Door of the trap (outside the building).
B. Inner end of the trap, where the swinging doors hang.
C. String used to pull up the outer door of the trap.



TRAP OF PIGEON-LOFT.

Interior, showing the loose bars, called "the bolt."
B. Little swinging doors on the inner end.
C. String which pulls up the outer door.

THE TRAP.

The drawbridge (from which the trap derives its use and name) opens at the top, and turns on hinges below. It is raised or let down by a string, which should pass *through* the loft, so that it can be drawn up, and the trap closed by the owner outside or beneath the loft, or in an adjoining chamber, without disturbing the birds, after he has ascertained, by peeping through a chink or aperture, that they have entered their apartment. The peculiar fittings of the trap, as most suitable to the room to which it is attached, are best left to some clever carpenter, who is experienced in such work, and do not need further detail here, except to state, that at the opening by which the trap enters the loft, it is usual to have pieces of lath hanging vertically, and freely suspended from a wire above, in such a way as to allow the entrance and prevent the egress of the birds. These the owner can raise at pleasure. The little swinging doors hang on a wire; they are round, and are broader towards the bottom, *i.e.*, they are long cones, so as to be steadied by their own weight, as seen in the figure. It will be found a great convenience if the pigeon-loft can be latticed off into two or three separate divisions (to be entered by the master through a little latticed door), in which the pigeons can be seen by visitors, and can also see and make acquaintance with the other pigeons belonging to the same owner, while only a certain select number are allowed to fly abroad, and have the *entrée* of the trap. A small table or two will be a useful piece of furniture: young squeakers, on first leaving the nest, will light upon it as their safest resting-place. The whole interior of the pigeon-loft, about the sides, corners, and projecting angles, should be fitted up with a number of small brackets, each about six inches in length and four in breadth, to serve the purpose of perches and landing-places.

NESTING-PLACES.

The accommodations provided as nesting-places, and their arrangement, must also very much depend upon circumstances. The most important point, and which may be laid down as the fundamental rule in pigeon-rearing, with a view to make the most of their reproductive powers, is that *each pair of parent birds ought to have at least two convenient pigeon-holes or breeding-places*, and that there be not the least pretext either for their being put out of their way themselves on this account, or for their disturbing and quarrelling with their neighbours. The reason for the rule is, that adult pigeons, of a prolific race, in good health and well fed, will lay a second pair of eggs *before* the nestlings hatched from the former ones can shift for themselves. Hence, pigeons which are enjoying the full exercise of their breeding powers, absolutely require *both* a nursery for their young, and a place to lay eggs in, apart, and yet within easy reach of each other. This requirement cannot be too forcibly insisted on, at least if success is thought worth attaining. The large numbers of young ones produced in the same season by one pair of birds, are always the result of the old ones being enabled to begin a fresh hatch before the previous family is *quite* off their hands. Otherwise the thing could not be done, and the produce would be less. The reader will now perceive *why* we so strongly recommend the pole-house, of which we give a figure in the present book for the country.

We have practically experienced the judiciousness of the arrangements suggested in an anonymous "Treatise on Domestic Pigeons." In carrying out the regulations, it may be said of pigeon-lofts, as well as of governments, "whiche'er is best administered, is best."

"You may erect shelves, of about twenty inches broad, for breeding-places, allowing eighteen inches between shelf and shelf, that Powters may not be under

the necessity of stooping for want of height, for in that case they would contract an habit of playing low, which spoils their carriage. In these shelves partitions should be fixed at about three feet distance (more, if possible), making a blind, by a board nailed against the front on each side of every partition, which will make two nests in the extent of every three feet; and the pigeons will not be liable to be disturbed, as they will then sit in private. Some fix a low partition between each nest, which prevents the young ones from running to the hen sitting at the other end, and thereby cooling her eggs; for in breeding-time, when the young ones are about a fortnight or three weeks old, the hen, if a good breeder, will lay again, and leave the care of the young ones to the cock. Others let them breed in partitions entirely open in front, for the greater convenience of cleaning out their nests. I find by experience, that nests made on the floor are much more convenient than otherwise, if the loft will admit of it (this is particularly true with regard to Runts, Trumpeters, and Fantails), for it prevents the young ones from falling out of their nests, which sometimes breaks a leg, and very often lames them, *and also gives them a chance of being fed by other pigeons, as well as their parents, which frequently happens.* [An old cock pigeon, who is a good father, will often take compassion upon a hungry squeaker which teases him, and runs after him begging for food, although it does not belong to him, and will charitably bestow upon it the contents of his crop.] In every nest there should be placed a straw basket, or earthen pan, that has not been glazed, which prevents the straw from slipping about, both which are made for this purpose, and the size must be in proportion to the pigeons you breed: for instance, a pan, fit for a Tumbler, or other small pigeon, should be about three inches high, and eight inches over at the top, and sloping to the bottom like a washhand-basin, and that in proportion for other larger pigeons, remembering to put a brick close to the pan, that they may with greater safety get upon their eggs;

and by means of this pan, the eggs are not only prevented from rolling out of the nest, but your young pigeons from being handled when you choose to look at them, *which often puts them into a scouring.* Some prefer the basket, as judging it the warmest, and not so liable to crack the egg when first laid; others the pan, not so apt to harbour vermin, and being easier cleaned; and say that the foregoing inconveniences are easily remedied by putting in a sufficient quantity of clean straw, rubbed short and soft, or frail; the frail is most valued, because it lies hollow, and lasts a great while, the dung shaking off it as occasion requires." A flat wooden bowl is also an excellent thing for pigeons to nest in; but when the floor can be occupied in that way, a couple of bricks laid up in one corner in the shape of the letter L, form a capital nest, simple, easily cleaned, and yet perfectly secure.

In the country and such situations where the pigeons may be safely allowed to enjoy almost entire liberty, and where it will be wished to see them take their food on the ground with the other poultry as a general rule, it is not a matter of urgent necessity to furnish a loft with hoppers or meat-boxes. Still it will be advisable to feed them occasionally, *i.e.*, four or five times a week, in their chamber. The object of thus feeding them within-doors is partly to confirm their affection for the spot, and partly to give the forward squeakers that may have quitted the nest a chance of learning to peck for themselves. For this purpose it will be sufficient to throw down a moderate supply of peas or barley on the floor, which we suppose to be swept and fresh gravelled with some degree of regularity. Broken mortar and bricklayers' rubbish, when it can be had, is an excellent thing to strew their floor with, in addition to the gravel; if it is not obtainable, a few lumps of clay, or brick-earth, and a spadeful of dry loamy soil, may be put down here and there.

In pigeon-lofts in large towns, where the birds are but seldom or never flown, some kind of corn-trough or hopper is indispensable. Of these there are various patterns

to be had, but the simplest are the best. The great object is to economize food, and to prevent it from being defiled with dirt. If it is too intricate in contrivance, and hard to get at, it will prevent weakly birds from eating, and hinder squeakers from learning to peck. A simple trough, with a low cover over it, broader than itself, and made steady by being fixed to two transverse splines at each end, will prove really more useful than many more elaborate pieces of mechanism.

If the pigeons are to be kept entirely confined in their lofts, the nests should be supplied with a little short straw in each; but if they are to be flown, and twigs and straws are at hand, it is better to leave them to make the nests themselves. This indulgence will allow them to exhibit a very curious habit. Just at the time of hatching, the cock bird brings new materials to the nest, to increase the accommodation for his two little new-comers; so that if a pair are known to be sitting, and the cock is observed to fly up to the loft with sticks and straws in his bill, it is a sure sign that hatching is about to take place. The intention is probably to keep the young squabs from contact with their own accumulated dung; otherwise it is very apt to clog their feet, and hang to each claw in hardened pellets. The same thing often happens to adult birds that are closely caged. The pellets should be removed by splitting them with a penknife; but it is best done by *two* operators, one to hold the bird. A single operator is apt to squeeze the patient when it struggles; and a hard nip, or tight pressure on the chest, is likely to prove suddenly fatal.

Pigeons are amongst those creatures which come into the world in a very rudimentary state; a wise ordinance, if we think for a moment. The very helplessness of the young is a convenience to parents that are obliged to be so much absent from home, and have to provide sustenance for their offspring often by long flights.

Pigeons are thirsty creatures; they like the neighbourhood of water, and seem heartily to enjoy the act of drinking. This is performed by plunging the head in,

nearly up to the eyes, and taking a full draught at once, instead of sipping, like cocks and hens. In incubating, they will not sit, like hens, much beyond the proper time; if the eggs turn out clear or addled, they will soon desert them when they find that no squabs are forthcoming. It is *after* the young have appeared that the assiduity of the parents is most manifested. The young ones are fed throughout with food previously swallowed by the parents; they receive it with a fluttering of the wings and a low plaining note of hunger, and even after they are full-grown, and can feed themselves, they will often pursue their parents, squeaking loudly, and begging to have a meal shaken into their crop, without taking the trouble to pick it up themselves. Young pigeons while confined to the nest, are called "squabs;" when they leave it, and first begin to flutter about the dovecot or the pigeon-loft, they are styled "squeakers." The old birds frequently, from some cause known only to themselves, seem to neglect *one* of their offspring, not giving it an equal quantity of food with the other one; nor does this neglected squab reach the size of its companion (which far outstrips it in growth) until it can feed itself. Sometimes one of the two squabs is actually starved to death by the undue favouritism of the parents towards the other. It is worth knowing, therefore, that squabs of about a fortnight old, which can do without the soft or half-digested food, and which chance to be neglected by their parents at that early period of their existence, may often be reared *by mouth*. The human nurse takes a small quantity of peas or wheat, and water, into his mouth; then, taking the squab in hand, he inserts its bill into the mouth so provisioned. After a trial or two, the young bird will take its food in this manner as readily as if it were fed by its feathered parent, and thus progress till it is able to peck for itself from the ground.

EGGS OF PIGEONS.

The eggs of the different breeds of domestic pigeons are much less dissimilar than those of fowls. They vary a little in size, but their shape and proportions are the same. We have never seen a buff pigeon's egg of the hue of those of the Malay or of the Cochin-China Fowl, and not even a cream-coloured one. All the wild pigeons' eggs, too, that we have had an opportunity of inspecting, as well as those of the Collared Turtle, look as if they were every one of them cast after the same model. Those of the Ringdove are, however, more blunt and rounded in shape than the eggs of the domestic birds, and do not taper so much. It would be most difficult, on being shown an egg of any of the pigeon family, to pronounce by which species it had been laid. We have never known the two eggs to produce a couple of hen squabs, though we have frequently had instances of the young birds proving both to be cocks; and this may be discovered by the incessant bickerings they keep up, at the time when they ought to be forming a quiet matrimonial attachment. The young also of the different species vary very little *at first*.

FOOD.

The usual food given to domestic pigeons that are kept in lofts, is gray peas; but they will also thrive on wheat, barley, oats, buckwheat, and the smaller pulse and grain. They are less partial to rye; but a great point is to vary, or as some do, to *mix* their diet. Tares or vetches are mostly too dear in England to feed them with. The same may be said of rape-seed and canary. Hemp-seed, so often recommended as a stimulant, is apt to bring on skin disease, and to disfigure a bird by causing naked patches to appear; *we*, therefore, advise it to be given rarely, and then with great caution, although the birds are extremely fond of it. New tares are said to bring on scouring, especially in young birds. Horse-

beans and Indian wheat are almost too large to give to the smaller breeds of pigeons.

SERVICE THEY RENDER BY CONSUMING THE SEEDS OF WEEDS.

All pigeons are fond of the seeds of many wild plants; and there is no doubt that both the Blue Rock Dove and the Dovehouse Pigeon render good service in preventing the increase of weeds in those fields which they frequent. They are most industrious in the zeal with which they follow out this pursuit. In walking, or rather running, in the fields in feeding, they sometimes aid their advance by a flutter of the wings; and in a flock of tame pigeons feeding in a field, the hind ones may be observed every few moments to fly over the rest, and take their places in front, to have their turn of the best pickings, and this in constant succession, as if the whole of the flock admitted the right in each other, and claimed it individually for themselves.

"At whatever time of the year you open a Dovehouse Pigeon," says M. Beffroy, "whether in harvest or seed-time, you will always find in its stomach at least eight times the quantity of food consisting of the seeds of weeds as of grain which has been cultivated for the use of man. Moreover, the grain in its crop is almost always injured grain. This bird, therefore, ought to be regarded as the most efficient weeder the farmer can employ; for it does not clear away the weeds themselves, often leaving the roots remaining, as is so apt to occur with human weeders, but it removes the very origin of weeds by picking up the seeds which come to the surface, as the different ploughings succeed each other.

"The services which pigeons render in this respect are so great, that in the canton of Dizy, in the Département de l'Aisne, where particularly fine, clean, and excellent wheat is grown, a decrease in the number of pigeons kept very soon caused itself to be felt. The land became covered with weeds, which choked the crops; the straw was thin and weak; the corn was light and deficient

in plumpness; and it was difficult to bring the samples to the state of cleanness which had once made it sought after for seed-corn. The principal farmers made the same remark. In taking the land from the *seigneur* at a quit-rent (*à cens*), one of the clauses in the agreement was that the *seigneur* of the territory should build a dovecot. The condition was insisted upon, and fulfilled, in order to insure the crops of the tenants; and, in many places, dovecots were built at a great expense. It has been remarked, besides, that districts which are the most productive of wheat, such as La Beauce, are those where there are the greatest number of dovecots. Pigeons, moreover, will not touch seed-corn which has been previously steeped and rolled in lime."

As a proof how fond pigeons are of the seeds of weeds, it is a great treat to them to throw out the rubbish, after a threshing of wheat or barley is dressed, on some lawn, or in some orchard, where it can do no harm by being blown or carted upon the land again, instead of burning it out of the way, as is the practice with many farmers. The pigeons will search for days together amongst this offal, after dross corn, poppy-seeds, charlock, and other pests of the farm, and will get many a meal from the minute tit-bits that would be utterly lost to cocks and hens. Nor, as they do not scratch, are they injurious in gardens, unless their little foot-prints be thought an eyesore. They will not disturb anything which the gardener has properly deposited in the ground; and what they do pick up is what would otherwise be wasted.

SALT AND LIME FOR PIGEONS TO EAT.

There are two luxuries of which pigeons are so fond, that they *will* have them, whatever risk or trouble it may cost to obtain them; and those are, salt and carbonate of lime. Pigeons living within an easy distance from the sea will obtain the former article by drinking hearty draughts of salt water; in chalky countries, they pick up the latter as it lies upon the ground, and will often swallow not a few small snails for the sake of the material

which composes their shells. Everywhere they get into bad repute by pecking out the mortar from the roofs of buildings. There can be no doubt that both these substances act medicinally upon the pigeon's constitution, and are necessary to maintain them in health. The wisest plan, therefore, is to provide them for them. Pigeons are also extremely fond of certain high-flavoured and odoriferous matters, which, though perhaps less requisite than the former two, are hardly less attractive to the birds. To gratify this natural craving, and frequently to serve as a bait for other people's birds, pigeon-fanciers prepare a composition which is called a salt-cat, and which is so named, we are told, "from a certain fabulous oral tradition of baking a cat, in the time of her salaciousness, with cumin-seed and some other ingredients." We give a prescription for making it, seeing that it can do no harm. Those who keep pigeons will find themselves obliged to provide something of the kind, if only to prevent their birds from being enticed away to other habitations, and detained. It will be seen that the groundwork of the whole recipe is nothing more than salt, calcareous earth, and aromatics which approach the nature of stinks. Pigeons delight in them, nevertheless. For instance, they are singularly fond of lavender. In the southern departments of France, where that plant grows wild, they break off the flower-stalks just above the leaves and beneath the flowers, and garnish their nests with them. For people who possess an extensive garden, it would be an easy, as well as a kind act of attention, to supply their birds now and then with a moderate quantity of this luxurious material for perfuming their nests.

SALT-CAT, OF VARIOUS KINDS.

One plan is, to lay near the pigeon-house a barrow-ful of loam, reduced to the consistence of pap by mixing it with water, or better, with old brine in which meat has been pickled. Add to this a gallon and a half of the coarsest sand, a peck of bay salt, and a little saltpetre.

If the loam is beat up with water, it will require more salt than when brine is used. If it is a good sandy loam, less sand will answer the purpose. Where loam cannot be procured, clay will do; but then more sand will be wanted. This mixture should be sheltered in some way from the rain, at the same time that the pigeons have free access to it. They will be found to enjoy it, and to be pecking at it continually.

A second receipt is, to boil the head and feet of a goat till the flesh and tendons drop from the bones. Remove the bones, and boil what remains in the same liquor, till the whole is reduced to a jelly. Then add a sufficiency of potter's earth to bring the mess to the consistency of dough. Knead it into small loaves, and dry them slowly in the sun, or in an oven, taking care that they are not burnt. When they are dry, place them in some convenient corner of the pigeon-house; the pigeons will soon find them, and peck at them till they are quite finished. Some make use of a goat's head boiled in urine, with a mixture of salt, cumin, and hempseed. This is particularly agreeable to the pigeons' taste. Others fry millet in honey, with the addition of a little salt and water.

A salt-cat of high repute is made thus: Take sifted gravel, brickmakers' earth or strong clay, and the rubbish of an old wall, a peck of each; or, if you use lime instead of rubbish, half the quantity will do. Add to these a pound and a half of cumin-seed and a quarter of a pound of bay-salt, or saltpetre. Let these ingredients be well mixed together with as much stale urine as will make a stiff cement. Then put the composition into old tin pots, kettles, or stone jars, with holes in the sides for the birds to peck at it, and covered at the top to prevent dirt from falling upon it.

We have found, however, that for practical purposes it is sufficient to strew the floor of the pigeon-loft with old mortar, and the lime-rubbish from dilapidated buildings, which contains a salt little inferior to common saltpetre. The pigeon-house, of whatever kind, should also contain a vessel to hold salt, or a pigeon's salt-cellar. If the

pigeons are kept in lockers, or pole-houses, salt must still be placed within their reach, and renewed as fast as it is exhausted; in such cases, it is not a bad plan to stick a cake of salt, or a lump of rock-salt, against a wall at some convenient spot. The pigeons will soon discover it and eat it. For the interior of dovecots and pigeon-lofts, the salt may be of any coarsely-granulated kind (that sold for agricultural purposes answers very well), set down on the floor in an earthen pan. It can be eaten more readily than rock-salt, and is therefore more agreeable. Fanciers, who are more superstitious than cleanly, and who believe that there is some *charm* in the salt-cat (and there are many such), are at liberty to prepare it according to the most potent and the nastiest recipe; but we have found by experience that common salt alone, in its natural state, with plenty of old mortar strewed around, answers every purpose of keeping the birds healthily contented with their lot, and so have avoided handling ingredients amongst which asafœtida is not the most disagreeable.

WATER SUPPLY.

In the case of dovecots, pole-houses, and lockers, where the birds live in a state of complete freedom, there will always be some pond or streamlet at hand, wherein the birds can drink and bathe, which latter act is a source of great enjoyment to them. We have often seen pigeons in a shower of rain lift up their wing and expose their whole side to the drops as they fell, for the sake of the pleasure which the shower-bath gave them. In a pigeon-loft, provision should be made for both these requirements, because, in towns and crowded neighbourhoods, they can but rarely drink at ease out of doors, and still more rarely bathe. Three or four times a week in summer, and once or twice a week in winter, a large flat pan should be placed in the middle of the floor of the loft, and filled with water. In this they will play and splash to such a degree, that a stranger to their habits would almost think they were going to drown themselves. The first-comers will soon dash all the water out, and it

must be filled again, till every pigeon has had its turn, and then removed and set on one side.

For drinking, it is of no use to leave any flat, shallow, open vessel, because the contents would soon be emptied in the way we have just described. There must be some drinking-place into which they cannot get and dabble, and whose shape insures its serving for drinking only. Good bottles for this purpose are the earthenware fountain-bottles, resembling, on a larger scale, the glass fountains which are fixed to birdcages, and holding two or three quarts of water. Of these, almost every earthenware and glass shop affords plenty of choice. Mr. Baily, the eminent poulterer, of Mount-street, Grosvenor-square, has invented a zinc fountain for fowls, pigeons, and lap-dogs to drink from, which, by means of divisions at the drinking-place, prevents the creatures from getting into it, and in a great measure from throwing dirt and sand into it. It is more expensive than the earthenware fountains, but, upon trial, we have found it to answer its purpose perfectly. Perhaps the best mode of supplying pigeons in a loft with water, is to invert a large glass bottle, filled with water, and suspended in a frame, with its mouth just touching a *small* shallow pan. So long as there remains any water in the bottle, the pan will always be filled, without ever running over. The plan was originally recommended in the "Treatise," and we quote the quaint sentences in which it is there described, hoping that, without the aid of a woodcut, the reader will be able to understand the principle of the contrivance.

"The water-bottle should be a large glass bottle with a long neck, holding four or five gallons (the carboys in which various fluids are received by dispensing chemists, are very suitable for the purpose), and its belly made in the form of an egg, to keep them from dunging on it; but the shape is not material, as a piece of pasteboard, hung by a string, at three or four inches above the bottle, will always prevent that, by hindering them from settling thereon. This bottle should be placed upon a stand, or three-footed stool, made hollow at top to receive the

belly, and let the mouth into a small pan; the water by this means will gradually descend out of the mouth of the bottle as the pigeons drink it, and be sweet and clean, and always stop when the surface of the water meets with the mouth of the bottle.

"The reason of which is evident; for the belly of the bottle being entirely close at top, keeps off all the external pressure of the atmosphere, which, pressing hard upon the surface of the water in the pan, which is contiguous to that in the bottle, is too potent for the small quantity of air which is conveyed into the belly of the bottle with the water, and which, consequently, as being the lighter matter, rises to the top of the bottle, as it stands in its proper situation; but the water being sucked away by the pigeons, that it no longer toucheth the mouth of the bottle, the confined air exerts its power, and causeth the water to descend till they become contiguous as before."

MATING-CAGES.

It is a great advantage to pigeon-fanciers, and enables them to keep several different kinds in the same loft without their intermixing, that when a pair of young pigeons have once formed a mutual attachment and reared young together, the union lasts for life. So long as they both continue in good health, they will go on producing a pure-bred offspring together, even though pigeons of other breeds are their daily companions. Sometimes, however, one of the pair may be lost or killed, and it will be desirable to provide the widowed bird with a suitable mate. Sometimes a fancier may chance to purchase a single bird of unusual value or beauty, and may wish to unite it with some one which he already has in his possession. In the former case, we generally allowed our birds to please themselves; if they paired with another single bird of a different variety, it was of little consequence, as the cross-bred produce which resulted was always both acceptable to eat and interesting to observe as to the different degrees of resemblance which they bore to their respective parents. But when it is neces-

sary to keep up a choice breed, birds must be made to mate as we wish them.

As this contingency will always be occurring, an indispensable requisite to a pigeon-loft will be, matching-places or mating-cages. It is better that they should be not in the loft itself, but in some apartment contiguous to it, in order that the birds to be coupled together may see no other individuals of their species but themselves. If either one or both of the birds has to be divorced from a former mate, that mate or mates must be killed or sent away beyond the power of return, otherwise they will be very apt to go back to their first love, causing the new union to be of but short duration. The time which it takes to make pigeons transfer their affections to a strange mate varies considerably; sometimes they will pair in four-and-twenty hours, and commence building immediately afterwards; and sometimes they will fight and quarrel for several days together, before coming to an understanding. The larger pigeons, as the Powters and the Runts, often have fierce engagements, dealing each other severe swan-like blows with the wing for an hour together. And in their wing-to-wing engagements, the younger cocks generally succeed in mastering the older ones. With pigeons, if the cock is not a bit of a tyrant, the hen is apt to be an indomitable vixen. "Notwithstanding they are very constant," says the "Treatise," "when paired to each other, seldom parting, except when either of them grows sick or very old, yet 'tis difficult to make them pair to one's mind. Therefore, to oblige them to this, there should be two coops erected, called by the fanciers matching-places, close together, with a lath partition between them, that they may see each other, and should be so contrived that they may both eat and drink out of the same vessels, feeding them often with hempseed [Be sparing of this], which makes them salacious; and when you observe the hen to sweep her tail to the cock, as she plays in the other pen, which is termed showing, you may put her in to him, and they will soon be matched. But if, for want of this convenience, you are obliged, at

first, to put them both into one coop, always put the cock in first for a few days, *that he may be the master of the place, especially if the hen be a virago*, otherwise they will fight so much as perhaps may settle in them an absolute aversion for ever after. But the cock, being master, will beat the hen, if refractory, into compliance." As soon as the pigeons give proofs that they are really mated, they may have the range of the pigeon-loft once more, always supposing that any former object of attachment has been banished for life. If it be desired to make them fix upon any particular nesting-place, they may be kept in a temporary lath cage, hung in front of it, and communicating with it; in a few days they will take to the place and settle in it, and then the cage may be removed entirely.

It has been observed, that when a *hen* pigeon loses her mate by death or accident, she generally goes off and is lost to her owner, unless a husband be quickly supplied (though in such cases two hens will sometimes mate together); but if the cock is the survivor, he will soon provide himself a mate from some other quarter, though not always perhaps to the taste of his master.

HOW TO COMMENCE PIGEON-KEEPING.

Supposing, then, that the pigeon-loft is conveniently fitted up with all the necessary fixtures and furniture, and only awaits a colony to inhabit it, the next step is, not merely to furnish it with a well-selected and sufficient population, but (which is the great difficulty) to *settle* the new arrivals in a state of contentment with their fresh locality. The former object can be obtained by money; success in the latter demands something more, which money alone will not buy. With all other poultry, it is enough to get them home, feed them, and leave them to inspect their new master's premises at their uncontrolled leisure. Not so with pigeons. Bring a score of fine birds to your comfortable loft; give them all the peas, and water, and salt, they can wish for; let them out at the

end of a day or two, and the chances are, that in a few hours they will all have disappeared, never to be caught sight of by you again. Pigeons must be made to form a strong and permanent attachment to their home, before they can be safely trusted with liberty. One great inducement to them to stay where they may happen to be brought to, is to find themselves in the midst of an old-established and numerous society; for though monogamous, or restricting themselves to one single mate, they are eminently social. But the founder of a *new* settlement of pigeons in a newly-built pigeon-house is not possessed of this means of temptation wherewith to allure strangers. Even a single pair inhabiting an old-accustomed loft, and giving it the air of being in the habit of receiving company, would make a great difference in this respect. We would advise that the first few pairs of pigeons that are brought to stock a bran-new loft be only of common and inexpensive breeds, whether young or old birds be selected for the purpose. If they abscond, the loss will be of no great consequence; but if they remain, steadily and satisfactorily, they will serve as the nucleus of a pigeon society, and may often be made the foster-parents of more valuable birds, whose eggs can be substituted for their own. Many dealers and amateurs are willing to part with the eggs of choice Tumblers, Powters, and Carriers, which may be hatched and brought up by inferior breeds.

It is not an unusual plan to clip the feathers of one wing, with newly-purchased birds, on turning them into the loft, in the expectation that the interval between that time and their next moult will be sufficient to reconcile them to a strange home, especially if they can be induced to breed meanwhile. But the operation does not always answer in the end. Some birds, as soon as they regain their powers of flight, start off, taking away perhaps a companion or two with them, in search of their old haunts. And besides that a clipped-wing pigeon is an uncomfortable sight, the stumps of the cut feathers often cause serious injury. They do not drop so readily as whole feathers, from their attachment to the skin, when the

moulting season arrives; inflammation ensues, disease follows, and the bird sometimes even dies in consequence. As soon as anything of the kind is perceived, in clipped-winged birds, the best plan is to pluck out every remaining stump by hand.

If a dealer *could* warrant that his adult birds of choice breeds *had never been flown*, but had been kept incarcerated from the moment of their sprawling out of the divided egg-shell,—a warrant which he can but rarely give with satisfaction to his own mind,—then the purchaser might safely keep them at home just for a few days, and afterwards let them out with but little fear of their leaving him. But it is a rare case to be able to place any such dependence on new-bought pigeons. Whether they go back to their old home, or whether they simply get strayed and lost, the disappointment is the same to him who wishes to retain them. The safest way to stock an unpeopled loft, in which the birds are intended to be allowed any degree of liberty in the open air, is to procure, by ordering them beforehand, several pairs of the young birds of the sorts required, as soon as they are able to peck for themselves, *i.e.* at about five weeks old. They will be better removed even earlier to their new home, if the trouble of feeding them by mouth and hand be not objected to. Such colonists as these will take to their settlement without giving much trouble. Still it will be wise to keep them shut up till they have laid their first couple of eggs. The great fear of losing them before that event is, that they are apt to be decoyed away by older birds in the neighbourhood, before they have fairly mated, and have become fully conscious that an independent home of their own is desirable.

Such young birds, if taken in couples from the same hatching by the same parents, will generally turn out male and female, and little trouble need be taken to ascertain their sex at the time of purchasing them. When a pair of pigeons rear only one young one, it generally turns out to be a cock; when they bring up two, the largest usually proves a cock, and the one which squeaks longest,

a female. In adult birds, the male is known by his larger size, his brighter colours, particularly in the glancing hues around his neck, by the greater inflation of the crop, his longer and louder coo, his pursuit of the hen from place to place, and by his turning half or three-quarters round, backwards and forwards, like a weathercock veering on its pivot, while he is paying his court and uttering his coo.

DISEASES.

We say little about diseases here, partly because they are incidentally mentioned, and will mostly be prevented by observing the rules we give; and partly because the really serious maladies to which pigeons are liable, are so deep-seated, obstinate, and difficult to cure, that the invalid is better killed out of the way. *Moulting*, which is only the natural function of renewing their plumage, has been classed among the list of diseases. If a bird is observed to suffer unusually, the best plan is to take it in hand and examine it, to see whether there are any stumps of broken feathers, which the patient cannot disengage from its skin. If so, they must be carefully drawn, one by one; give plenty of good (not oily) food, supply the bird with the means of bathing and dusting, let it enjoy warm shelter, and it will be speedily cured. *Canker*, which is an unsightly scabbiness and nakedness of the skin, and which is attributed often to the pecking of the cocks, or to drinking out of a metal vessel, is, according to our own experience, frequently brought on by an undue proportion of oily diet, such as hemp, rape, poppy, &c. Abstinence and exercise are the best remedies; but it is an obstinate complaint, and can rarely be cured before the moulting-season, and frequently not then. If the skin on the naked patch be broken, it may be dusted with a little flour. Skin disease in pigeons is as difficult to treat as in the human subject. *Vertigo*, if not curable by air and exercise in a few days, ought to condemn a bird to death. The same of any *eruption* or

pustular disorder. The internal weaknesses known amongst the fancy as *gizzard-fallen*, *navel-fallen*, and other indescribable intestinal disorders, show so great a weakness of constitution, that no one would care to keep such birds, even after they *seemed* to be perfectly recovered.

CHOICE OF SORT.

The reader may be disposed to ask, which is the most advisable sort of pigeon to keep; to which we reply, that tastes differ. Please *yourself*, without consulting others. Nuns and Archangels are to be recommended for their beauty, Tumblers for their performances, and Fantails for their oddity. If handsome, court-yard, table-birds are desired, we should be much disposed to recommend the larger breeds, such as Trumpeters, Runts, or even Antwerp Carriers, though most pigeon-keepers would think it a sin to kill and eat the young of the latter. Runts, for some reason which is not very clear, are held in but little esteem in England. Fanciers disregard them because they are neither elegant in shape, beautiful in feather, nor pleasing in flight. Their size ought to recommend them for economical purposes; and although our climate is less favourable to their profitable increase than their native birthplace, the shores of the Mediterranean, still, warm housing and attention will in a great measure make up for the deficiency. Their great bulk makes them remarkable ornaments to the aviary, and their history, as far as we can guess at it, ought to attract the attention of the naturalist. There does not appear to be any great distinction between the Leghorn, Spanish, and Roman Runts. Some of the latter are so big and heavy, that they can hardly fly; which circumstance, if *not* the result of domestication, would account for their disappearance in a wild state.

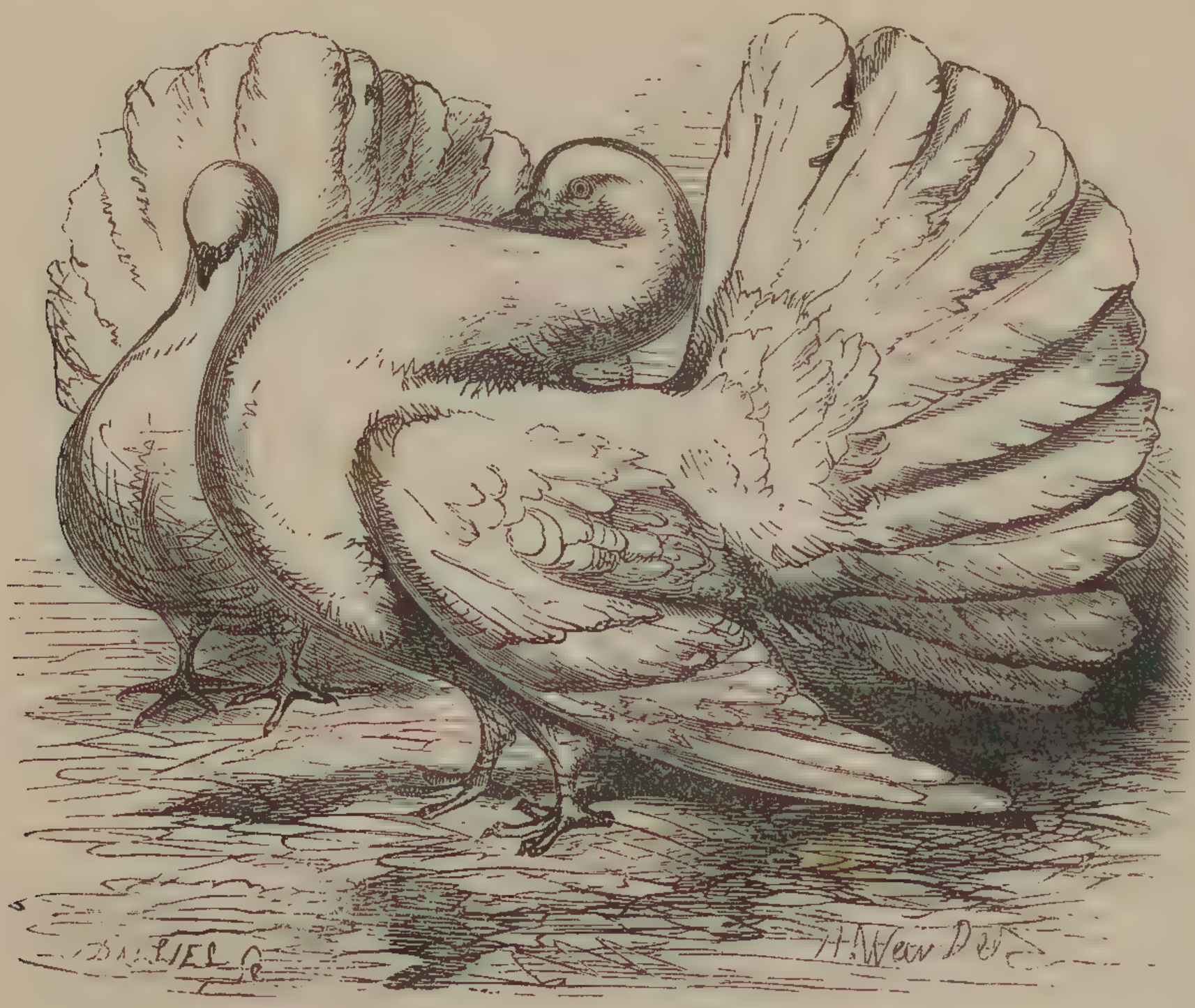
YOUNG PIGEONS FOR EATING.—HOW TO FATTEN THEM.

To have good pigeons on the table, one ought not to wait till they can feed themselves alone, because just at that time they begin to grow lean, their flesh loses the tenderness and delicacy which characterize the young of dovehouse pigeons. The time to kill them is when they are about a month old, just before they leave the nest. Then they are good. But if first-rate pigeons are required, the following mode of fattening is recommended:—

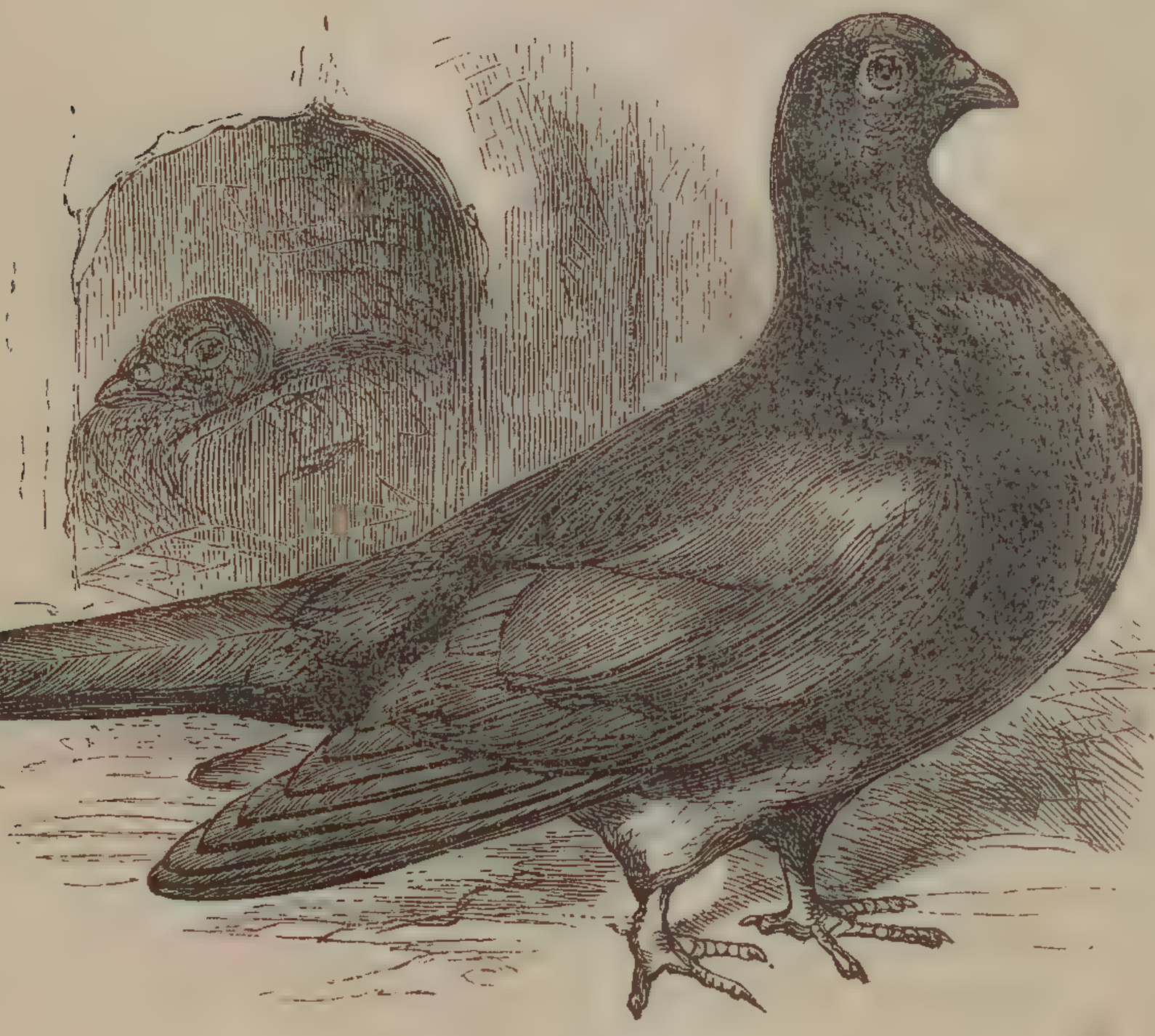
When the squabs are about eighteen or nineteen days old, and their wing-feathers begin to sprout, take them out of the dovehouse, and place them in a nest in another room, covering them with a basket on an inverted hamper, which will keep out the light and yet leave a free passage for air. It is well known that all animals which are to be fattened artificially, ought to be kept in the dark. Have ready a quantity of maize which has been steeped in water four-and-twenty hours. Twice a day, namely, early in the morning and in the evening before nightfall, take each squeaker out of the nest, open its bill dexterously, and at each meal cause it to swallow, according to its breed and size, from fifty up to eighty, and even a hundred grains of steeped maize. Continue this treatment for ten days or a fortnight, and you will have pigeons as fat as the very best poultry. The only difference will be in their colour.

THE ADVANTAGE OF TWO DOVECOTS ON THE SAME ESTATE.

Olivier de Serres gives a valuable hint that the way to have an abundance of young pigeons for the table, is to build *two* dovecots; one out in the open fields, the other at home in the poultry-yard. The two different habitations will, between them, supply a numerous produce: for to give pigeons the means of shifting their dwelling whenever they please, and of interchanging visits,



Fantails, p. 53.



Runt, p. 56.

is the very best way to make them multiply." So much so, that a couple of dovecots, in close neighbourhood together, will give more young pigeons than will be obtained from four pigeon-houses that are situated at considerable distances apart.

VARIETIES OF THE DOMESTIC PIGEON.

In describing the different varieties of Fancy Pigeons, we propose to take them in the following order :—

1. Fantails. 2. Runts. 3. Trumpeters. 4. Archangels. 5. Nuns. 6. Jacobins. 7. Turbits. 8. Barbs. 9. Tumblers. 10. Bald Pates. 11. Powters. 12. Carriers. 13. Lace Pigeons. 14. Frizzled Pigeons.

Fantail Pigeons are so named in consequence of having their tail furnished with so great a number of additional feathers as to give it the appearance of an outspread fan nearly bent double into a hollow form. The more feathers a bird has in its tail, the more valuable a specimen it is. The number varies from twenty to as many as six-and-thirty. The French call the Fantail the *Pigeon Paon*, or Peacock Pigeon; but the comparison is unfortunate, and is founded on an error. "It is so named," says M. Temminck, "because it has the faculty of erecting and displaying its tail nearly in the same way in which the Peacock raises and expands his dorsal feathers. This race might also be called *Pigeons Dindons*, or Turkey Pigeons, their caudal feathers being also placed on an *erector* muscle capable of contraction and extension at pleasure." M. Temminck is mistaken here. The tail of the Fantail is *always* expanded and displayed; and when other domestic pigeons do spread their tail in the actions of courtship, it is brought downwards, so as to sweep the ground like a stiff train, not *upwards* like the Turkey or the Peafowl.

"These pigeons," he adds, "are not much sought by amateurs; they seldom quit the precincts of their aviary; apparently the fear of being carried away by the wind (which, acting forcibly upon the broad tail, would infallibly upset them), is the reason why they do not

venture far from their domicile, nor undertake long journeys. Lastly, these pigeons, which cannot by their own powers travel far, have been transported to a great distance by man; perhaps, even, they are not natives of our climate, for many doubts arise against their specific identity with the wild Rock Dove. Striking characters, such as the number of tail-feathers, do not permit us to consider the wild Rock Dove as the type of the Fantail Pigeons."

But Fantails are by no means the miserable and degraded monsters that Temminck and many other writers would induce us to believe them to be. They may be, and often are, closely kept in cages, or dealers' pens, till they are cramped and out of health. The most robust wild pigeon would become so under the same circumstances. But if fairly used, they are respectably vigorous. It is a mistake to suppose that they are deficient in power of flight, unless their muscles have been enfeebled by long incarceration. Their tail is not so much in their way as the train of the Peacock. It is true that it consists, or ought to consist according to the fancier's rule, of three times the number of feathers which other pigeons can boast of; but it is an excellent aërial rudder notwithstanding. Like other pigeons, Fantails, if taken from home, will attempt to fly back to it again; and their qualifications as parents and nurses are far from being despicable.

These birds, Willughby tells us, are called *Broad-tailed Shakers*, and the name is adopted in most of the treatises on Fancy Pigeons, though seldom made use of by fanciers. "*Shakers*," he accurately says, "because they do almost constantly shake, or wag their heads and necks up and down; Broad-tailed, from the great number of feathers they have in their tails—they say, not fewer than twenty-six. When they walk up and down, they do for the most part hold their tails erect like a *Hen* or *Turkey-cock*."

The *Narrow-tailed Shakers* of the Pigeon-books are nothing more than imperfect Fantails, either in conse-

quence of cross-breeding, or from a temporary loss, during one generation, of part of the hereditary peculiarity of the race. When Fantails breed with other pigeons, in the offspring sometimes the fantail entirely disappears, sometimes a half-fantail remains, which would be a Narrow-tailed Shaker. Cases have occurred in which, by coupling a true Fantail with such a bird as the last-mentioned, the pure race was re-established.

Pigeons generally can bear long fasts, and perform long journeys better than common fowls. Their tenacity of life under starvation is considerable. As an instance, an amateur had a white Fantail Pigeon which lived nine years, and died at last almost blind with old age. But the most curious thing which ever happened to her is, that she fell down a hothouse-chimney, and then walked along about sixty feet of the flue, that was nearly choked up with soot, before she got into the furnace, in which there luckily was no fire. The door happened to be shut, and poor old Fanny lived there five days without food before her prison-door happened to be opened. When at last she came forth, instead of being milk white, she was all dingy, like a blackamoor. In another case reported to us on good authority, a Carrier Pigeon was shut up in a basket, and then forgotten for eleven days. By mere accident, the basket was opened, and the bird discovered. It was carefully nursed, and recovered eventually from the effects of the extraordinary fast it had undergone.

Fantails are mostly of a pure snowy white, which, with their peculiar carriage, gives them some resemblance to miniature swans. Their neck is long and taper, and curved into a serpentine form. From the very backward position in which their head is held, it often touches the tail, and even is thrust behind it occasionally. The more this peculiar mode of strutting is exaggerated, the more valuable the bird is considered to be. Rarely, Fantails are quite black or slate-colour, and also yellow; now and then they are seen white, with slate-coloured patches on the shoulders, like Turbits. Fantails have a

very short beak, and are exceedingly full-breasted. The most singular habit which they have, is the trembling motion of the throat, which seems to be caused by excitement in the bird. The same action is observed in the Runts, in a less degree. The iris of the Fantail is of a dark hazel, the pupil black, which gives to the eye a fulness of expression quite different to what is seen in most other birds. Colonel Sykes, in the Transactions of the Zoological Society, makes the colour of the iris an important guide in determining the affinities or dissimilarities of species, believing it occasionally to manifest even generic distinctions. Now amongst fancy pigeons the iris varies greatly, and is thought of much consequence, as is known to every amateur. The cere at the base of the Fantail's bill looks as if covered with a white powder.

The *Runts* are by far the largest and heaviest race of domestic pigeons, and are less known and cultivated in this country than they deserve to be, mainly because their powers of flight are not such as to afford much amusement to the amateur. A pair of good Runts will weigh two pounds and a half, or more. There are Leghorn Runts, Roman Runts, and Spanish Runts; but the truth is, that Runts of various breeds are to be found all along the shores of the Mediterranean. The most remarkable point respecting them is their extreme antiquity. Pliny and other Roman writers make frequent mention of them, as Campanian Pigeons. The English name Runt is probably a corruption of the Italian *Tronfo*. Willughby calls it "the greater tame pigeon."

If placed in favourable circumstances, Runts are very prolific birds. Twelve young ones in the course of the season is not an uncommon produce for a single pair. Their heaviness unfits them for being the occupants of ordinary dovecots; they have a difficulty in flying up to any height, and are therefore best accommodated in a low house or nesting-place, raised only a few feet from the ground. Many a rabbit-hutch would be very easily convertible into a convenient Runt-locker, where the

birds might be petted, and wherein they would bring forth abundantly. The Runts prefer walking and resting on the ground, to perching on buildings, or strutting on roofs. Hence Buffon very properly calls them *Pigeons Mondains*, which we might English by applying to them the designation of Ground Doves, were not that term already appropriated by a family of wild foreign pigeons. The eggs of Runts are much larger than those of other breeds. Buffon truly says that the *mondains* are nearly as big as little hens. We are told of one bird fatted up to the weight of two pounds eight ounces.

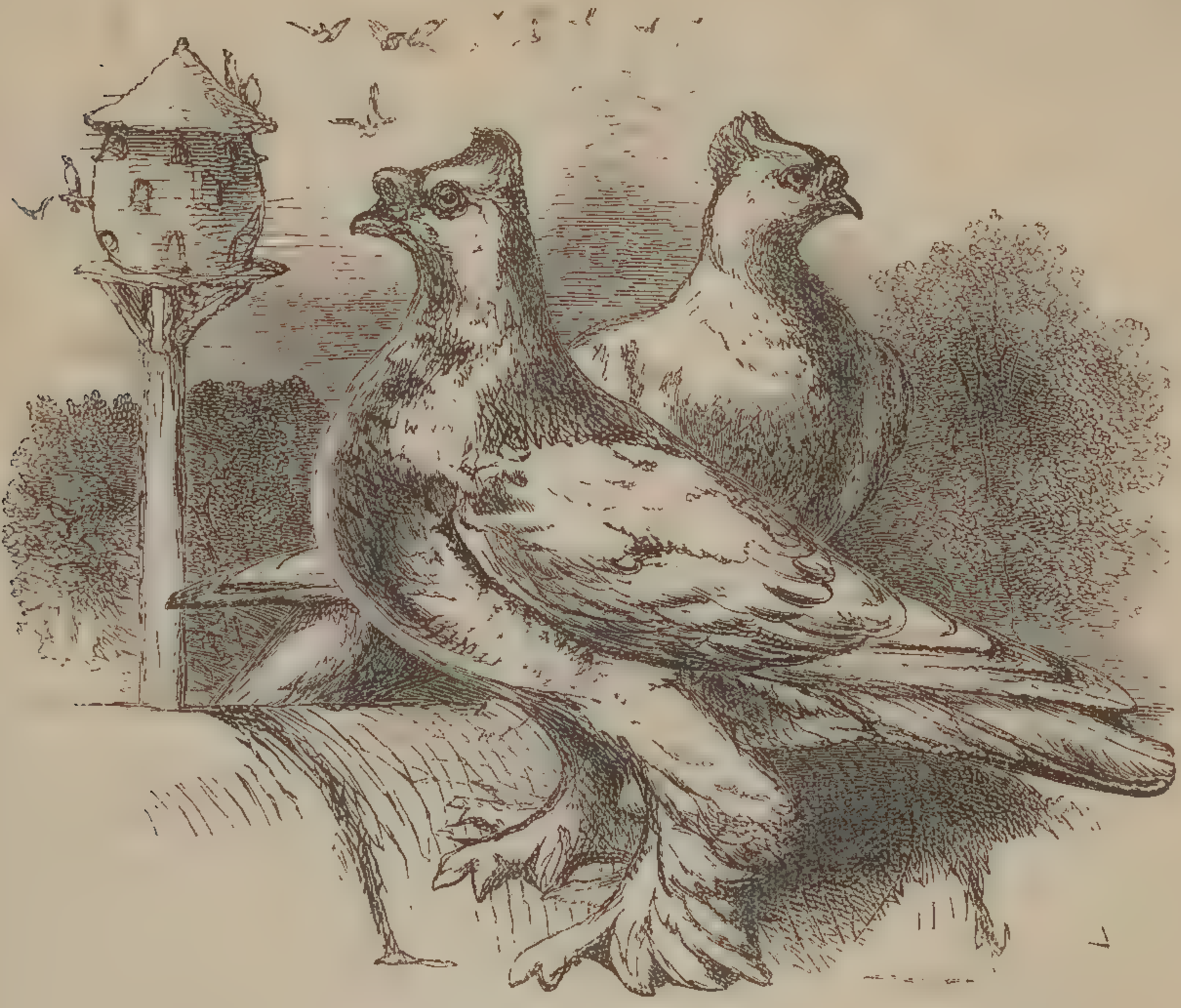
Runts vary in colour, also in having feet feathered or not, and somewhat in bulk; but the limits of their variations are not hard for the experienced eye to detect, though not easy to describe. A marked characteristic is the way in which they carry their tail, holding it up ordinarily above the tips of the wings, which some have compared to the gait of a duck. In Runts, the principal standard of merit is weight; they are short-necked and very broad-chested. They prove themselves excellent nurses, if accommodated with a nesting-place suited to their habits; and we believe that the want of being provided with that, is the sole cause why they have failed with some breeders, and that it has been recommended to take their eggs or young from them to be brought up by other pigeons. Fulness of the cere at the base of the bill, terrestrial habits of life, and plumpness and inactivity of body, are among their principal characteristics. Their prevailing colours are shades of brown, light slate-colour, and white; cinnamon-colour and very dark slate are favourite tints with amateurs. The cooing of Runts is less distinct than in other breeds, having a sort of muffled sound. They tremble when excited, though not so much as the Fantails. Many travellers in Italy have noticed, with retrospective relish, the size and flavour of these excellent birds, which attain there not only great magnitude, but for pigeons a very unusual degree of fatness. English sailors who go to the Mediterranean, are very fond of buying Runts at the ports

they visit. They are great pets on board ship; they breed there in lockers and hencoops, and are sometimes allowed their liberty, and permitted to fly round about the vessel while she is pursuing her course on a fine day. If the breeze is but steady, they get on very well, and enjoy themselves as much as they would in calm weather on shore. Squally weather would be their ruin; and then they are kept safe within-doors.

Notwithstanding the disproportion of size and incongruity of habits, Runts breed freely with other domestic pigeons, and the half-breds are so excellent for the table, that in many situations it is well worth while rearing them with that object in view.

The *Trumpeter*, in the language of fanciers, is very runtishly made, and nearly allied to that race of birds. It is considerably larger than the Dovehouse Pigeon, and approaches to the Runt in size. Trumpeters are very prolific, good nurses, and fatten well for the table; they are therefore a desirable breed to keep, if merely for that purpose, without any reference to their curious appearance. They have one great advantage over Runts, in being better flyers, and more able to save themselves out of harm's way, as from the clutches of a cat, a rat, or a dog.

The most usual colour of Trumpeters is pure white, though they are often found mottled with black and white in so regular and even a manner, almost every alternate feather contrasting in colour, as to give their plumage the general effect of a chessboard, or a black and white marble pavement. Their most distinguishing characteristic is the tuft of feathers which sprouts from the root of the beak; and the larger this tuft grows, the greater is the value set upon the bird. A well-grown moustache is the point which the amateur is advised most strongly to insist upon. It has a helmet-like turn of feathers at the back of the head, and should be very feather-footed and legged, or booted as we might call it. This soldier-like appearance and fierce military air, while cooing before its mate, probably suggested the appella-



Trumpeters, p. 58.

Archangels, p. 59.

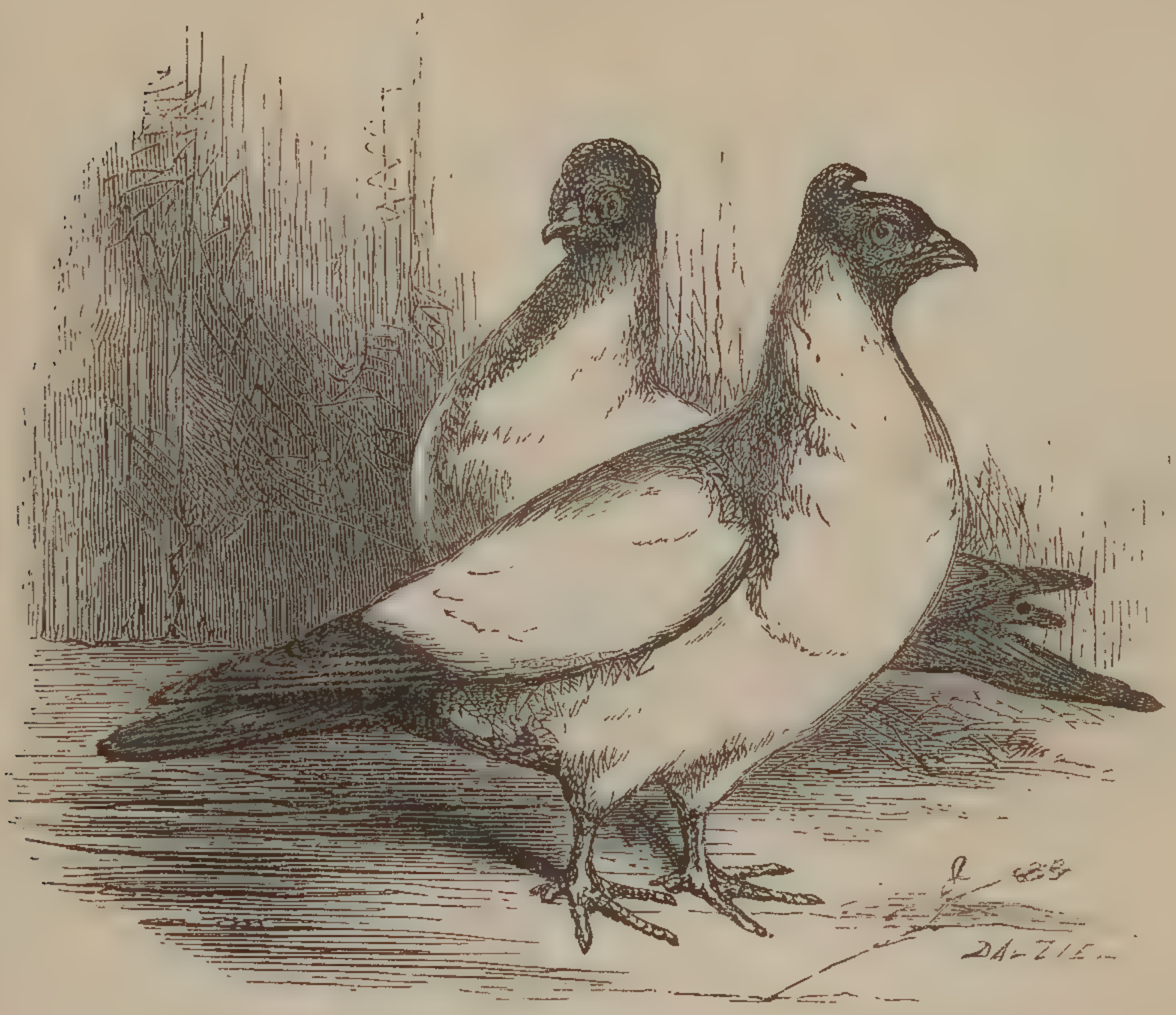
tion of Trumpeter,—unless that name is another corruption of the Italian *Tronfo*. The trumpetings, however, are much exaggerated in the printed descriptions. They differ very little from the cooing of other Runts: perhaps the inspiration of the end of the coo may be a little more sonorous. Good Trumpeters are not common in England; they are much more frequent on the continent; but there little pains is taken to pair them properly, and numerous half-breds are the result. The Trumpeter is one of the "pearl-eyed" pigeons; that is, its iris is delicately shaded with pink; it is also one of the breeds which are denominated "Toys" by old-fashioned fanciers.

The *Archangel Pigeon* is both rich and unique in its colouring. The head, neck, and fore part of the back and body, are chestnut, or copper-colour, with changeable hues in different lights. The tail, wings, and hinder parts of the body, are a sort of blue-black; but many of the feathers on the back and shoulders are metallic and iridescent—a peculiarity not usual in other domestic pigeons. The chestnut and blue-black portions of the bird do not terminate abruptly, but are gently shaded into each other. There is a darker bar at the end of the tail. The iris is very bright orange-red; the feet clean and unfeathered, and bright red. Archangel pigeons have a turn of feathers at the back of the head very similar to that of the Trumpeter, or to Aldrovandi's woodcuts of his *Columba cypria*. It is the colouring rather than the form which so specially distinguishes them. Their size is very much that of the Rock Dove. Neither the older ornithologists nor the pigeon-books (with the exception of the "Dovecot") furnish any hint of Archangel pigeons, that we have been able to find. They are sufficiently prolific to be kept as stock birds, and a flight of them is a particularly beautiful object; but they are at present too valuable, either as presents or for exchange and sale, to be consigned to the hands of the cook. Still it is with the higher rather than the lower class of pigeon-fanciers that they are in much request, in spite of the bright and glowing hues with which their plumage is adorned.

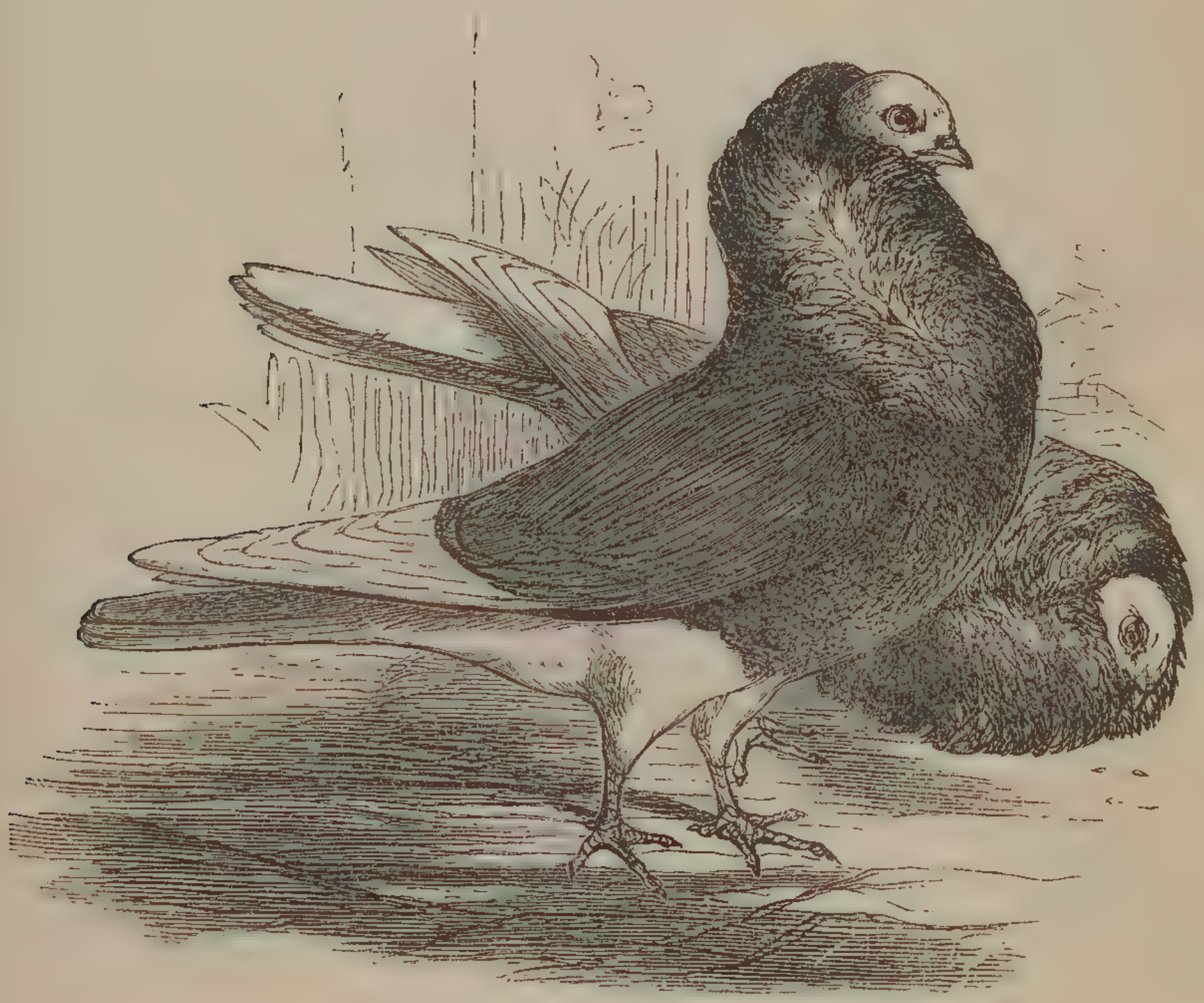
Their name is probably derived from their having been originally brought to us from the Russian port, or *viâ* Archangel from some other quarter, as Tartary, India, or the Chinese empire.

The *Nun* is perhaps the very prettiest and most striking of the Toy pigeons. It is smaller in size, but resembles the Trumpeter in having a tuft of feathers rising from the back of the head, and bending forwards, like a hood thrown a little back. The small bill and pearl eye of this bird also add to the neatness of its appearance. Their colouring is various, but in all the varieties is strongly contrasted. In almost all cases the body is white, while the head, tail, and the six flight-feathers of the wings are either black, red, or yellow; and they are consequently styled black-headed, red-headed, or yellow-headed Nuns. The colour of the tail and the flight-feathers must correspond with the colour of the head in the same individual. Whenever the colour of the feathers differs from these rules, or there is a white feather in the wings, tail, or head, or a dark feather on the body of the bird, it renders it what is called foul-feathered, and is a great blemish and drawback from its value.

"The most beautiful specimens of Nuns," says Temminck, "are those which are black, but have the quill-feathers and the head white: they are called *Nonnains Maurins*." We have never been so fortunate as to see any birds of this kind, and believe them to be of great rarity. But the most usual sort—and exceedingly charming birds they are—are what Buffon styles *Coquille Hollandaise*, or Dutch Shell-pigeons, "because they have, at the back of their head, reversed feathers, which form a sort of shell. They are also of short stature. They have the head black, the tail and the ends of the wings also black, and all the rest of the body white. This black-headed variety so strongly resembles the Tern (*hirondelle de mer*), that some persons have given it that name." Several other fanciful names have been bestowed upon it in former times and in foreign countries, but none appears so appropriate as that of Nun, especially in the black-



Nuns, p. 60.



Jacobins, p. 61.

headed variety. The best-marked birds will sometimes throw out a few foul feathers; and those that do so but in a small degree, though not so much valued in themselves, will often breed as clean-feathered birds as those that are not.

The flight of Nuns is bold and graceful; they are very fairly prolific, and by no means bad nurses. A peculiarity in the new-hatched squabs of the blackheaded Nuns is, that their feet are frequently, perhaps always, stained with dark lead-colour. All the Nuns are great favourites, except with those fanciers who are devoted to Tumblers and Powters. A flock consisting entirely of the black-headed sort has a very pleasing effect; but one containing individuals of *all* the procurable varieties of colour (the arrangement of this on the birds, and their shape, being exactly similar), would have a very charming appearance.

"*Jacobines*," says Willughby, "are called by the Low Dutch *Cappers*, because in the hinder part of the head, or nape of the neck, certain feathers reflected upwards encompass the head behind, almost after the fashion of a monk's hood, when he puts it back to uncover his head. These are called *Cyprus Pigeons* by *Aldrovand*, and some of them are rough-footed. Aldrovandus hath set forth three or four either species or accidental varieties of this kind. Their bill is short; the irides of their eyes of a pearl-colour, and the head in all white."

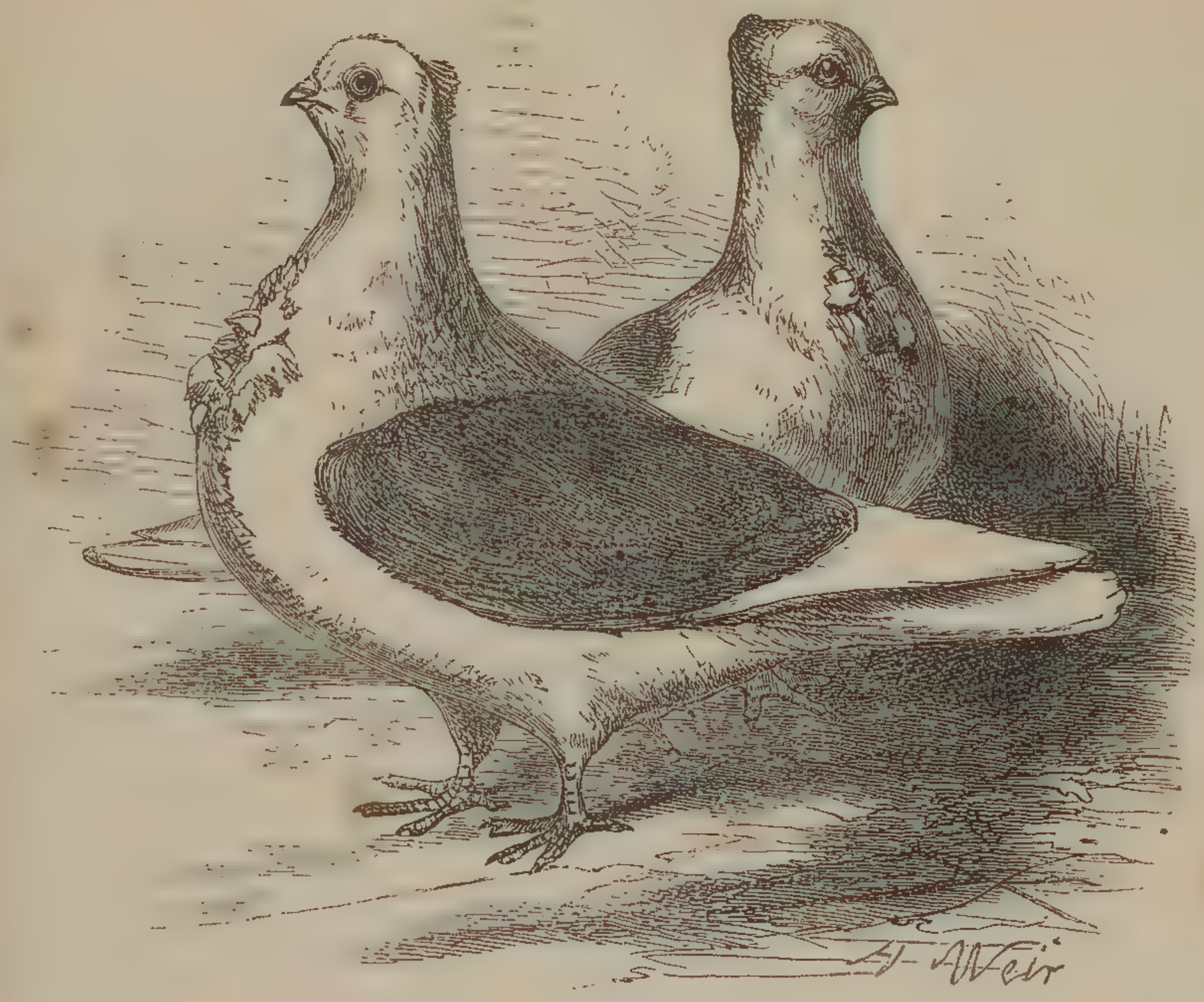
Jacobine, Ruffled Jack, Ruff, *Pigeon Carme*, *Columba cucullata*, and Capuchin, are names all applicable to the same type of bird, however bred or crossed, and all derived from some reference to ecclesiastical costume. The Jacobines are about the most unproductive of our pigeons; they lay small eggs, which they incubate unsteadily, and if they hatch them, nurse carelessly. It is best to transfer their eggs to some more trustworthy foster-parents. On account of this difficulty in rearing them, good Jacobines are both scarce and dear. They are included among the pigeons technically called "Toys;"

Tumblers, Powters, and Carriers being alone considered worthy of the serious attention of fanciers.

The Jacobine has a range of feathers inverted quite over the hinder part of the head, and reaching down on each side of the neck to the shoulders of the wings, forming a kind of hood, something like a Jacobine friar's, from whence it takes the name. The upper part of this range of feathers is therefore called the hood; and the more compact these feathers are, and the closer they are to the head, so much the more the bird is valued. The lower part of this range of feathers is with us called the chain, but the Dutch call it the cravat, the feathers of which should be so long and close, that, were you to strain the neck a little, by taking hold of the bill, the two sides should fold over each other, which may be seen in some of the best specimens. Sometimes the pigeon-dealers, it is said, cut a piece of skin out between the throat and the chest, and sew it up again, by which means the chain is drawn closer.

The Jacobine should have a very small head, with a sudden rise at the forehead, and a spindle beak, the shorter the better, and a pearl eye. With regard to the feather, there are various-coloured ones, such as reds, blues, mottled, blacks, and yellows; the preference of which seems to be given to the last-mentioned; but whatever colour they are of, they should have a clean white head, with white flight-feathers and a white tail. Some of them have feathers on their legs and feet, others have none; and both sorts are equally esteemed, according to the taste of fanciers.

The *Turbit* is another of the small Toy Pigeons. Its great peculiarity is, that the feathers on the breast open and turn back both ways, standing out almost like a fringe, or the frill of a shirt; the feathers arranged in this unusual way are called the purle; and the handsomer and more conspicuous the purle, the higher the value set upon the bird. Their tail and the back of their wings ought to be of one entire colour, as blue, black, or dun; but in yellows and reds, the tails should be white; and



Turbits, p. 62.

Almond Tumblers, p. 67.

those that are blue, should have black bars across the wings; the flight-feathers, and all the rest of the body, should be white. As Nuns are described according to the colours of their heads, so Turbits are spoken of with reference to the colours of their shoulders: thus there are black-shouldered, yellow-shoulderd, and blue-shouldered Turbits: there are, however, whole-coloured Turbits, such as entirely white, black, or blue. These are often known as Owls; and whatever nice distinctions between Turbits and Owls dealers may make, our eyes can perceive no other difference than that just mentioned. All Turbits and Owls ought to have a short round button head, and a short beak like a partridge,—the shorter the better; on which account this pigeon is called, by the Dutch, Cort-beke, or Short-bill. The iris in the brown-shouldered Turbit is dark hazel, surrounding a large black pupil; and the attention of naturalists may be directed to the similarity in the shape and air of the head in the Fantail, the Jacobine, and the Turbit, all races with striking peculiarities of plumage.

Several French writers have asserted the Turbit to be the most distinct breed of all the races of domestic pigeons, and to have greater claims than any of them to be regarded as a separate species. Our own experience and observations do not confirm this remark. It is just as distinct, and no more so, as the other domestic breeds. Whatever right they may be adjudged to have to specific honours, the Turbit also has, but no greater. Temminck complains of the difficulties which amateurs experience in making them propagate with the other breeds of pigeons which are supposed to be derived from the Blue Rock Dove; but cases are known in which the Turbit has paired and bred with the Rock Dove itself. Instances sometimes occur of sterile males among Turbits—a fact which may have led Temminck to suppose that these birds entertain some general aversion to the females of other breeds; but like cases of infecundity occur with China Ganders, and even with Turkey-cocks. Turbits, if the faulty members of the family are rejected, are a satisfac-

torily prolific race. Buffon says of the *Pigeon Cravate*, or Turbit, that it is scarcely larger than a Turtle, and that, by pairing them, hybrids are produced—a statement which is quoted by Temminck. We can only observe, that the Turbit Pigeon differs from the Turtle in one very important point; its time of incubation is the same as that of other domestic pigeons, whereas the Collared Turtle at least hatches in a much shorter period. It is not easy to discover the meaning or the derivation of the name by which this breed is known.

The *Barb* Pigeon, like the Barb horse, derives its name from Barbary, in Africa. It is an elegant little bird, very quiet and demure in its appearance, and yet full of fun and activity. Its chief characteristic is a naked, wrinkled, red skin round the eye, which books say, most likely with truth, increases till the individual is four years old. Pigeons improve much, both in appearance and in constitutional powers, with age. They live, we believe, and continue fertile much longer than is generally imagined. Many young pairs of pigeons are condemned because their owners do not exercise sufficient patience with them; and, from their peculiar habit of attaching themselves to one fixed home, to which they will return at all hazards, if they can, it is not easy to possess a good stock of birds (unless by buying them and retaining them in constant confinement) without passing through this preliminary discipline of patient pigeon-feeding.

The best, though not the only colour for Barbs, is an entire black. In such, the prismatic shadings of the neck are particularly beautiful, and the scarlet circle round the eye forms a very handsome contrast. Dun-coloured Barbs are also met with occasionally. Pied, mottled, or fowl-feathered specimens, are held in but little esteem. To this breed must also be referred the Mahomet, or Mawmet Pigeon, as it is called. It is clearly nothing but a white or cream-coloured Barb, with a cross of the Turbit in many instances.

Barbs have a short beak, which is often compared to that of the bullfinch, and a pearl eye. The rate at which

they breed is not to be complained of; and as to their crossings with other breeds, the rule of the paramount influence of the male, amongst pigeons, seems to obtain with these birds also.

"*Tumblers*," saith Willughby, "are small, and of divers colours. They have strange motions, turning themselves backwards over their head, and show like footballs in the air." The general characteristics of Tumblers are, to be below the average size of pigeons, to have a short body, a slender neck, a full breast, a short round head, with the forehead rising perpendicularly from the beak, a small spindle bill often compared to that of a goldfinch, and a pearl eye. Tumblers with feathered feet and legs are not at all uncommon. Those Tumblers which are self-coloured, or whole-coloured, *i.e.*, all black, or all cinnamon-colour, in various shades, or all cream-colour, are called Kites: there are, besides, various Splashes; as myrtle-splash, cinnamon-splash, and others. The Tumbler is known in French as the *Pigeon culbutant*, and in Latin as the *Columba gyratrix*. Choice specimens of the Tumbler fetch high prices, and are especial favourites with the pigeon fancier; though even the common Kite, such as you would buy for two or three shillings the pair, may boast of its own intrinsic merits. Do you want a bird to eat? It is as good as any; a merit, though an humble one. It breeds as freely, and with as little trouble; and there is nothing so neat and trim as it is among domestic birds, not even the most perfect of the Sebright Bantams. If we look to its performances in the air, we must allow it to be decidedly the most accomplished member of the aërial ballet. Pirouettes, capers, and tricks of agility, all come equally easy to it in turn. Other pigeons, certainly, can take any course in the air, from a straight line, that would satisfy Euclid as being the shortest distance between two points, to circles and ellipses that remind us of the choreal orbits of the planets round the sun; but the Tumbler, while it is rapidly wheeling past some sharp corner, seems occasionally to tie a knot in the air

through mere fun; and in its descents from aloft, to weave some intricate braid or whiplash. Tumbling in the air, on the part of good Tumblers, is to themselves an act of pleasure. They never do it unless they are in good health and spirits: their best performances are after being let out from a short confinement. The young Tumbler, as soon as it has gained sufficient strength of wing, finds out by chance that it *can* tumble; it is delighted at the discovery, and goes on practising, till at last it executes the revolution with satisfaction to itself. Often and often the young Tumbler may be seen trying to get over, but cannot nicely. The same firmness of muscle and decision of mind are required to execute that feat, which enable the leading men at Astley's to throw their fortieth or fiftieth somerset backwards. Beginners are incapable of such excellence.

Fanciers strongly advise not to keep any other sort of pigeon in company with Tumblers, for fear of spoiling their flight. The recommendation is a good one; because, while other pigeons ought to circle, or stretch straight out, Tumblers ought to mount. High flying is required of them; their powers should be directed to an upward course. They should also keep close company together. A few good birds that have been used to high flying, will be serviceable in training the young ones to be lofty soarers. Once a day is quite often enough to allow them to take this exercise; and a clear bright morning is the most suitable time. As soon as they are all returned into the loft, the trap should be shut for the rest of the day. It has been observed that there are times when Tumblers will take a more extraordinary flight than usual; when their young are about half-reared, for instance, and the parents need no longer concoct the food given them. Again, when swallows and other birds are sporting in the upper regions of the atmosphere, Tumblers will make extravagant flights, both for height and length of time. On the other hand, it is imprudent to let them out in foggy weather or during a gale of wind. Many a valuable bird has been

lost in this way, and has been detained prisoner in a trap which it had entered for temporary shelter.

The *Almond Tumbler*, or as some have it, the *Ermine Tumbler*, is said to be the result of cross-breeding between the various Kites, such as blacks, whites, and cinnamons, and the various Splashes, as myrtle-splash, and cinnamon-splash. Their form is the same as in other good Tumblers, but their colouring must be a combination of at least three tints on each feather, if possible, so as to give the idea of the petal of a well-broken tulip, or a rich and polished fragment of breccia marble. To obtain this, great patience is required; and even to keep up a stock of good Almond Tumblers, considerable experience and judgment are indispensable, making the breeding of Almond Tumblers almost a study and a fancy by itself. The birds themselves, it must be confessed, are as curious as any of the domestic pigeons. The more they are variegated in their flight and tail feathers, especially if the ground is yellow, the greater is the value set upon them. Birds with a fine bright yellow ground have always the precedence of all other colours; for twenty may be bred that are light-grounded, for one deep ground; besides, the light-grounded ones are for the most part wanting in yellow, both in the tail and the flight feathers. By rejecting all foul-feathered birds, and by judiciously mating the best-coloured individuals together, Almond Tumblers have been brought to a state which amateurs and fanciers pronounce to be "perfection." One writer boasts, "I have had some in my collection that have had few feathers in them but what have contained the three colours that constitute the almond or ermine; namely, black, yellow, and white, variously and richly interspersed. In short, their beauty far surpasses all description, and nothing but the eye can convey a just idea of them."

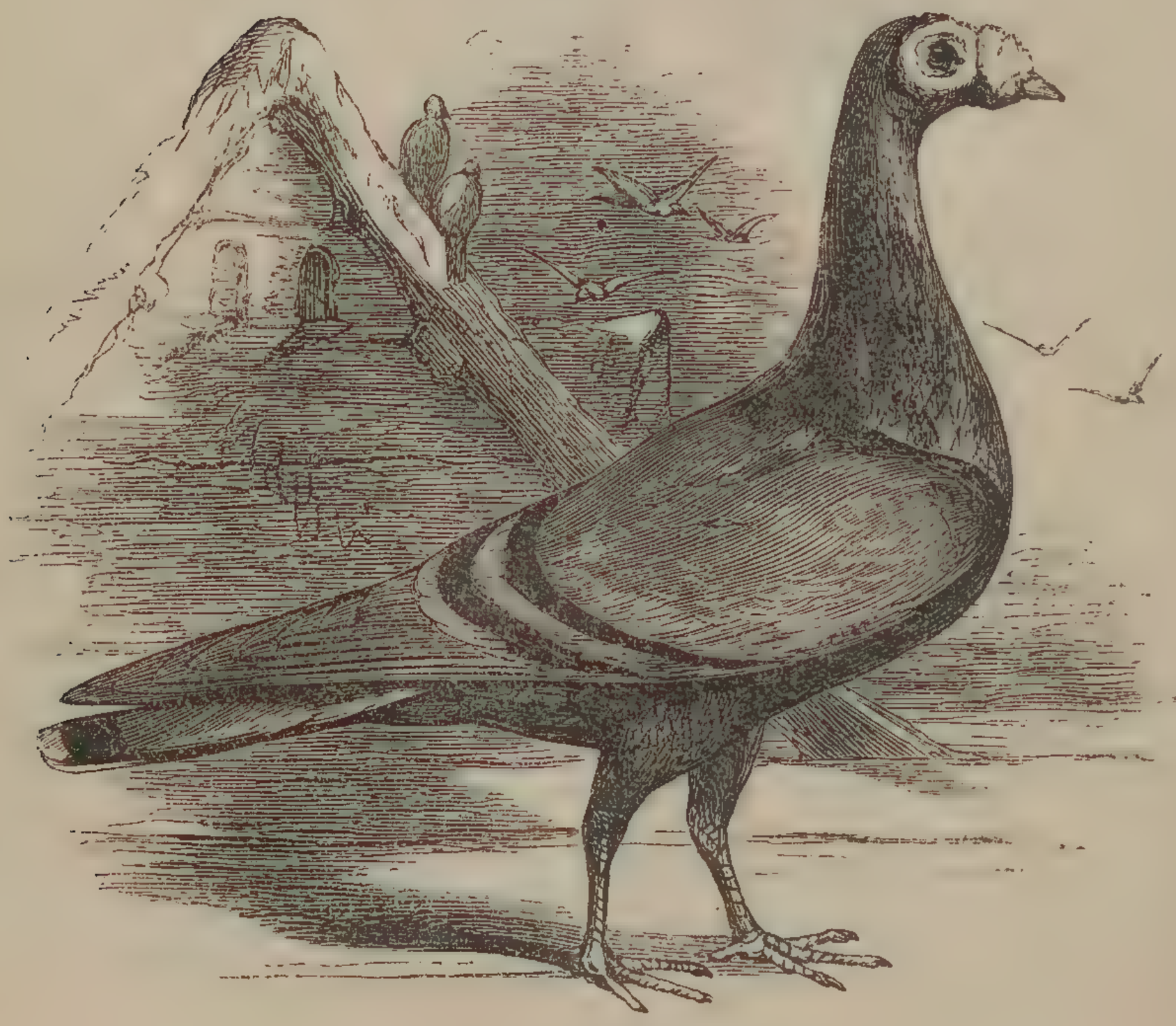
For those who wish to possess the perfect tri-coloured Almond Tumbler, it is better, in purchasing young ones, not to form a judgment upon the birds themselves, but, if it can be managed, to get a sight of

the parents. For instance, the bill shrinks, that is, hardens, for some weeks after the old ones have ceased to feed them; and the harlequin's coat in which the adults are clad, appears only very partially in early youth. At the first moult, many of the diverse markings break out for the first time, and Tumblers in general do not attain their complete beauty till they are at least three years old. We have proved thus far by our own experience; but, what is very curious, it is stated on good authority, that in the decline of life they gradually decrease in splendour till they become sometimes merely mottled, splashed, or even whole-colour, like vulgar kites.

It will be evident that all these intricate markings are lost to the eye unless the pigeon be kept to be looked at in a loft, almost like a cage-bird, which it often is. We would not express any opinion about tastes, so long as they are innocent; but it will be perceived that, at any distance from the eye, whole-coloured birds are by far the most telling in a group, and the most ornamental, when Tumblers are flown, and not mewed in a pigeon-loft all their lives long. Almond Tumblers, however beautiful near at hand, can only look dirt-coloured when seen from any distance.

The most curious point about Almond Tumblers is the form which some of them have been brought to attain; the whole thing, however, is very simple. The common well-bred Tumbler, in its ordinary state, has a compact little body, with a round head, a short beak, and neat little feet. But this did not content some fanciers. By pairing together birds in which these qualities were the most exaggerated, they got bodies still more compact, heads yet rounder, beaks shorter, and feet neater. It was the breeder's art carried to the uttermost, but no sample whatever of the *creative* power of man, as several French naturalists chose to phrase it. As to the beaks, do what the fancier would, they still were not small enough to his liking, and then the penknife was brought into play to pare them down *below* the standard. The young of the birds so operated on had not, perhaps,

Powter, p. 69.



Carrier, p. 75.

smaller beaks than those originally possessed by their parents; but still they sold, and that was enough. By coupling the most monstrous individuals of a race, a family of monsters were kept in existence for a time. Tumblers have been bred with their beaks so small that they cannot feed their own young, and with their frames so compact that they cannot fly to the top of their breeder's bedstead. They are called Tumblers only because they *would* tumble if they *could* fly. The variation of the species Tumbler has been pushed to its utmost possible limits. Were the limit exceeded, the bird could not be propagated, if it could exist at all.

Bald-pates, sometimes called Bald-pated or Bald-headed Tumblers, are pleasing birds, with a very genuine look about them. The character of the head much resembles that of the Turbit and the Jacobine. Some varieties have the dark hazel eye, others the pearl eye. Their name is derived from their having usually the head, tail, and flight-feathers white, and the rest of the body of some uniform colour: those with slate-coloured bodies are as pretty as any. Sometimes the arrangement of this colouring is reversed; the body is white, and the head, tail, and quills coloured; they then answer to the description of a breed which is called the *Helmet* in most pigeon-books. Nearly allied to the Bald-pates are the pigeons which are called the *Magpie* and the *Spot*. The former derives its name from the singular admixture of colours which it exhibits, having the head, neck, body, and tail dark, while the wings are white; hence its supposed resemblance to a magpie. The latter has a black spot on the forehead and a black tail, with all the rest of its plumage white.

Bald-pates and their varieties are robust birds, of handsome appearance, good breeders, and sufficiently prolific to be kept for table purposes. They are no novelty in the pigeon world, having been described by the older writers.

Powters are the rivals of the Tumblers in the eyes of many fanciers; or rather, there are two classes of fanciers,

one of which is devoted to Powters, and the other to Tumblers, while both look down upon a third set of fanciers, whose taste specially leads them to the keeping of Toys. The peculiar characteristic of Powters is the size of their crop, which they are fond of distending into a ball by inflating it with air. Hence, in many parts of England, they are called Croppers, which is not a vulgarism, but an old form of speech. "*Croppers*," says Willughby, "are so called because they can, and usually do, by attracting the air, blow up their crops to that strange bigness, that they exceed the bulk of the whole body beside, and which, as they fly, and while they make that murmuring noise, swell their throats to a great bigness, and the bigger the better and more generous they are esteemed." The hen Powter has also an inflated crop like the male, the same in kind, though less in degree. When zealous fanciers want to form an opinion of the merits of a Powter Pigeon, they inflate the crop by applying the bird's mouth to their own, and blowing into it, exactly as if they were filling a bladder with air, till it is extended to the very utmost. Nor does the patient seem in the least to dislike the operation, but the contrary; and when set upon its legs, chokeful of wind, it will endeavour to retain the charge as tightly as it can, and appears actually to be pleased with, and proud of, the enormity of the natural balloon which it carries about with it. The only analogous case we are acquainted with is the fish which blows itself out with air, and then floats on the surface of the sea belly upwards. An over-inflated Powter is, of course, in a comparatively helpless state for the time being, and liable to accident; when out of health, or satiated with food, his crop hangs loose like an empty bag, and the bird does not show himself to advantage. If, as some writers have held, the inflation of the crop is the peculiar distinction of the pigeon, Powters ought to stand at the head of the whole family of *Columbidæ*.

As Tumblers are noted for one peculiar mode of flight, so Powters have theirs; and they are not considered

good birds unless they execute it properly. After "playing" a little while in front of their trap, they ought to launch into the air, performing a number of stately and dignified circles, clapping their wings loudly immediately after their first starting. The inflated crop ought not to be collapsed by the exertion of flying, but should be seen moving through the air like a large permanent soap-bubble, with a body and wings attached to it. Other pigeons will indulge in the same noisy action to a less degree, but Powters are especially expected to be clappers; and hence we believe the *Smiters* of Willughby and other writers to be only a synonyme of the present kind, or some of its varieties. He says: "I take these to be those which the forementioned Hollander told Aldrovandus that his countrymen called Draiiers. These do not only shake their wings as they fly, but also, flying round about in a ring, especially over their females, clap them so strongly, that they make a greater sound than two battledores or other boards struck one against another. Whence it comes to pass that their quill-feathers are almost always broken and shattered, and sometimes so bad that they cannot fly." Smiters and croppers, or something very like them, must have been known and kept so long back even as Pliny's time. His words are: "You would think they were conscious of their own colours, and the variety with which they are disposed; nay, they even attempt to make their flight a means of clapping in the air, and tracing various courses in it. By which ostentation they are betrayed to the power of the hawk, as if bound, their feathers being entangled in the action of making the noise, which is produced only by the actual shoulders of their wings."

Fanciers who, through fear of accident, keep their birds constantly confined in a loft, lose all the amusement to be derived from the flight of Powters, and are obliged to content themselves with their carriage and play. But Powters have considerable powers of wing, as well as hardiness and memory of their home. The Powting Horseman, a cross between the Powter and the

Antwerp Carrier, has gained great favour by its habit of frequently dashing off, and acting as a decoy for stray pigeons that have missed their way home—"a pleasing satisfaction to those who delight in the flying fancy;" and there are instances of their returning home from so great a distance as twenty miles.

A pair of pigeons of the Cropper kind were given to an amateur by a friend, and were confined about a month, with the view of breaking off the thoughts of their former home; but, as soon as they had their liberty, they flew towards their old habitation. The hen arrived immediately; but, strange to say, her mate did not *till two years afterwards*. No doubt he was trapped, and remained in confinement during the whole of that time. The distance to their old home was no more than four miles and a half; but what seems curious is, that a pigeon should recollect his home after two years' absence.

The carriage of the Powter is a great point to be attended to. He ought to walk upright, almost like a man; he must, therefore, be kept in a lofty coop, to avoid getting a habit of stooping. In the language of the fancy, the Powter should play erect, with a fine well-spread tail, which must neither touch the ground nor sink between his legs; neither must it rest upon his rump, which is a great fault, and is called rumping. He should draw the shoulders of his wings close to his body, displaying his limbs without straddling, and walking almost upon his toes, without jumping or kicking, as is the manner of the Uploper, but moving with an easy majestic air. The Uploper is nothing but a smaller variety of Powter, brought from Holland, whose name is derived from the Dutch word *uplopen*, to leap up, because, in making his salutations to the hen, he leaps towards her with his tail spread. In East Anglia, to *lope* is an old provincialism for to *leap*. Before a perfect carriage is attained, a great deal of time must be spent upon them, in order to make them tame and familiar; they must be used to see company, to receive frequent visits, to be

talked to often in fancy language, to have their backs stroked, and to be clucked to, as a hen does to her chickens. If they once become shy, they lose one of the properties for which they are admired, and which is called "showing." The partisans of Almond Tumblers have therefore made the sarcastic observation, that Powters were birds more peculiarly suited to watchmakers, cobblers, weavers, and such other tradesmen as work in the same room where their pets are kept, than to gentlemen fanciers; for the humbler class of amateurs alone can converse with and familiarize their birds without wasting the time which ought to be devoted to their necessities.

Powters are of various colours; the most usual are blue, buff (in fancy language, *cloth*), and white. These are splashed in various mixtures. Pure white Powters are really handsome, and look very like white Owls in their sober circlings around the pigeon-house. Apropos of the blue and the cloth-coloured birds, it has been stated that if you pair a chestnut with a blue Powter, the cock being, say the chestnut, the chances are that of their offspring, the young cock is blue, and the hen chestnut, and that *their* offspring will come *vice versâ* round again. An objection to this variety of pigeons is, that the largest-cropped birds seldom have their crops perfectly covered with feathers, but show a great deal of naked skin (from their rubbing off), which leaves the beholder to *imagine* the beautiful plumage which *ought* to be beheld. They are also apt to be gorged by overfeeding themselves; in which case we have proved the benefit of the following directions, adding to them, however, on our own responsibility, a calomel and colocynth pill. When Powters have been too long from grain, they will eat so much that they cannot digest it; but it will lie and corrupt in the crop, and kill the pigeon. If this, therefore, at any time happens, put them into a strait stocking, with their feet downwards, stroking up the crop, that the bag which contains the meat may not hang down; then hang the stocking upon a nail, keeping them in this manner till they have digested their

food, only not forgetting to give them now and then a little water, and it will often cure them. But when you take them out of the stocking, put them in an open basket or coop, giving them but a little meat at a time, or else they will be apt to gorge again. The mode of cutting open the crop, and sewing it up again, and of tying a portion of it up with a ligature, to let it rot away, has the effect of spoiling the bird's beauty for life.

From the point of the beak to the end of the tail, the Powter should measure eighteen inches, with a fine shape, and a hollow back sloping off taper from the shoulders. The legs should be seven inches long from the toe-nail to the upper joint in the thigh. The crop ought to be large and circular towards the beak, rising behind the neck, so as to cover and run neatly off at the shoulders. According to the best judges, a pied Powter ought to be marked thus:—The front of the crop should be white, encircled with a shining green, interspersed with the same colour with which he is pied; but the white should not reach the back of the head, for then he is called ring-necked. There should be a patch of the same colour with which he is pied, the shape of a half-moon, falling upon the chop; when this is absent, he is termed swallow-throated; the head, neck, back, and tail should all be of the same uniform colour; and, if a blue-pied bird, he should have two *black* bars near the end of each wing. If these bars are brown, they greatly detract from the value of the Powter, who is then termed kite-barred. When the shoulder of the wing is speckled with white, in the form of a rose, it is called a rose-pinion, and is highly esteemed, and really does add greatly to the beauty of the plumage; they must not be naked about the thighs, but their legs and thighs must be stout and straight, and well covered with white soft downy feathers. Whenever the joints of the knees, or any part of the thigh, are tinged with another colour, he is foul-thighed. If the nine flight-feathers of the wing be not white, he is foul-flighted. The greatest authority upon all these points

sums up the whole philosophically thus:—"A Powter that would answer to all these properties might very justly be deemed perfect; but as absolute perfection is incompatible with anything in this world, that pigeon which makes the nearest advances towards them is most undoubtedly the best."

Powters have deservedly a bad character as nurses, and it is usual to put the eggs of valuable birds under other pigeons to hatch and rear. For this purpose the *Dragon* is often selected,—an intermediate race between the Antwerp Carrier and the Tumbler, or better, between the Antwerp Carrier and the Blue Rock Dove. We can speak from experience of the valuable properties which this latter cross amongst pigeons displays. The breeding of Powters is, in several other respects, both expensive and troublesome. For instance, it is common to part the birds during winter, and to keep them singly in cages by themselves. The frequent necessity for crossing the strain, and introducing fresh blood, is also an inconvenience. Powters must not be bred in and in, nor near relations be allowed to mate, lest they should degenerate in size, and become worthless in a fancier's judgment. That the very same degeneracy is a merit in the Tumbler, is only a proof of the capriciousness of the taste of the fancy. When so many difficulties have to be overcome, it is not surprising that a pair of perfect Powters should sell for twenty guineas, or more.

Carriers are a remarkable race of pigeons, which, from a remote antiquity, have been employed in the office of bringing, rather than of carrying letters. They fetch intelligence home from whatever place, within their power of return, they may have been purposely sent to. They do not carry letters out wherever they are bid, as some ignorant people have supposed. To avail oneself of the services of Carrier Pigeons, birds must first have been sent *to* the place from which intelligence is desired; so that in cases where difficulty of access is likely to occur, considerable foresight has to be exercised. It would be of no use wishing for the arrival of a courier pigeon from

a fortified town, or the Eddystone Lighthouse, if the one were in a state of siege, and the other fairly in for six weeks' bad weather, with no previous provision of Carriers from without. The birds have to be kept confined in the places whence they may be required to start on any emergency. If the points from which intelligence is to be conveyed, are situated in widely-different directions from each other in respect to the central home, different sets of birds have to be maintained. The pigeon which will travel with practised ease from London to Birmingham, will be unable to find its way to Birmingham, if taken to Bangor or to Edinburgh. Carrier Pigeons have been largely employed in conveying messages across the English Channel; and there are few seaport towns on our eastern and southern coast, from Great Yarmouth to Penzance, in which there are not one or two pigeon-trainers resident, to whose hands a variety of birds are constantly intrusted. Even the wider breadth of the Irish Channel is crossed by Carrier Pigeons, both from Holyhead to Dublin, and from Ireland to the coast of Wales. It is over seas and desert tracts that pigeons are the most useful, as well as the surest messengers; in civilized and thickly-peopled countries they are less needed, and are, moreover, apt to get entrapped or shot, and their secret stolen from them. Accordingly we find that they have been much used in the East. The Carrier Pigeons employed in Europe are merely an imitation of Oriental example.

The question has often been discussed as to *how* the pigeon finds its way through such long distances as we know to be occasionally traversed by it. Mr. George Combe, and the phrenological writers, account for the feats performed by Carrier and other pigeons, by supposing them to result from the action of a special organ of the brain, which they have named Locality, and which, when highly developed in man, appears as two large prominences, of singular form, a little above the eyes, commencing near each side of the nose, and going obliquely upwards and outwards, almost as high as the middle of the fore-

Half Lop, ~~[illegible]~~

Copied from M^r. Bellamy

head. Sir George Mackenzie considers the primitive faculty to be that of perceiving *relative position*. The organ is affirmed to be large in the busts and portraits of all eminent navigators and travellers, such as Columbus, Cook, and Mungo Park. Dr. Gall believes the organ to be possessed by the lower animals, and relates several amusing stories of dogs returning to their homes from a great distance, without the possibility of their having been guided by smell or sight; indeed, his whole work is full of delightful illustrations of natural history. Similar facts with regard to other animals and birds must occur to the memory of every reader; and we must allow that no credible hypothesis for the means by which this surprising faculty is exercised has been offered, except by the phrenologists. Dr. Gall considers it to belong to the organ of Locality. The falcon of Iceland returns to its native place from a distance of thousands of miles; and Carrier Pigeons have long been celebrated for a similar tendency, though of inferior power. The migrations of swallows, nightingales, terns, and others, are attributed by Dr. Gall to periodical and involuntary excitement of the organ of Locality; for this excitement, it cannot be denied, occurs even in birds kept in cages and abundantly supplied with food. We must admit that at least *some* affections of the mind are subject to involuntary and periodical excitement of various intensity.

Repeated experiments, however, have been tried with the view of ascertaining whether Carrier Pigeons can instinctively return to their homes from a distance, or whether, to make them useful as messengers, it be necessary to teach them the road. The result clearly proves that the Carrier is guided in his journey solely by memory, and a knowledge of the country he has to traverse. These birds, when employed to carry intelligence from one part to another, are trained by being taken, first, say five miles from home, then ten, and so on, till the whole journey is completed by short stages; and even if the bird should know the road, it cannot travel in foggy weather. In Turkey, Carriers are called

Bagatins, or Couriers; and the Turks and Persians make a common practice of breeding these pigeons in their seraglios, where there is a man whose business it is to feed and train them for their intended use. When a young one is come to the perfect use of its wings, and has acquired its full strength, they carry it in a basket, or otherwise, about half a mile from home, and there they turn it out; after this they carry it a mile, then two, four, eight, ten, and twenty, till at length it will return from the furthest parts of the kingdom. But it is found that if pigeons be not practised when young, the best of them will fly but very indifferently, and will not uncommonly be lost. In the same way, before the submarine telegraph was laid down between England and France, the captains of the packets to and fro, used to take with them baskets of Carriers in different stages of training, to be let off soon after the boat had started, in mid-channel, or near the opposite coast, according to the previous practice which the birds had undergone and had performed satisfactorily. Among these creatures, as among men, some are more easily taught than others, and the fanciers distinguish the best birds by the height and fulness of the membrane above the nostrils; and the method which dealers practise to set off an indifferent bird, is to raise this membrane, and puff up the part by stuffing pieces of cork under it.

It is doubtful how far the faculty or instinct of these birds would enable them to discover their home through long intervals of unknown country, where the space between, say, *two* of their horizons from their highest elevation, is all fresh and devoid of recognizable landmarks. It is not usual to trust to such a power of discovery in birds that are to be employed on any important service, but to train them, by taking them further and further away from home. Inexperienced birds find their way back from short distances very easily, if the ground over which they have to fly lies all in one plain, or in one valley; but if any high ground intervenes between the place where they are thrown off and their home, they are

very apt to lose their way. In short, even if the phrenological doctrine be true, that the pigeon finds its way by means of the organ of Locality in its brain, still that organ requires to be exercised, in order to be of service on any unusual emergency.

The flight of the Carrier Pigeon is clearly not conducted by the same principle which guides the Stork, the Quail, and the Woodcock, over wide seas, by night. That may be an excitement of the organ of Locality; this is not. We have had birds that had been taken from home six or seven miles, come back at last at the end of two or three days; *i.e.*, they could not find their way immediately. In the same space of time in which they accomplished these six or seven miles, migratory birds would have passed over four or five hundred at least. The merchants and manufacturers of Belgium have done more to test the capabilities of pigeons than any other people. Their annual pigeon-races produce an excitement almost equal to our horse-races. In 1844 one of the greatest races took place, from St. Sebastian, in Spain, to Vervier. The distance would be about 600 miles. Two hundred trained pigeons, of the best breed in the world, were sent to St. Sebastian, and only seventy returned. In another race to Bordeaux, eighty-six pigeons were sent, and twenty returned. A strange and mistaken notion prevails, that it is only necessary to send a Carrier Pigeon away from home, and that its instinct will invariably lead it back. Let any one try the experiment, and send the best-bred Carriers at once to Birmingham, for instance, and we venture to assert that not one would return to Manchester without previous training,—namely, taking them short distances at a time, and then increasing by degrees. It has been said that pigeons are guided on their return home from long distances by instinct. Instinct is said to be unerring; not so the pigeon's flight. If instinct be the guide, why not fly through foggy weather with equal speed and facility as in clear sunshine? This, it is notorious, they cannot accomplish. When the ground is

covered with snow, pigeons seem to miss their points of guidance, and are lost. This would seem to favour the opinion that they travel by sight, and are less indebted to instinct than is generally imagined. Carrier Pigeons do not fly at night; they settle down if they cannot reach their home by the dusk of evening, and renew their flight at daylight next morning.

The velocity of a pigeon's flight seems to be greatly overrated. Many persons will be surprised to be told, that a locomotive railway engine can beat a Carrier Pigeon in a distance of 200 miles.

Several treatises direct that the letter to be carried must be gently tied under the bird's wing, in such a manner as not to incommode its flight; and it is in such guise that we commonly see columbine messengers depicted. But an express pigeon-flyer would just as soon think of tying a letter to a bird's tail, as under its wing. The practice is to roll some fine tissue paper neatly round the leg, secured with a thread of silk; and thus the bird can travel, without the paper causing resistance or impediment to its flight.

Carriers are mostly black in colour; a few are dun, or cinnamon, while others are splashed or mottled; the last are held in less esteem. They are above the ordinary size of pigeons, and their form is a happy combination of strength with gracefulness; their beak is thick, long, and straight, in contrast with that of Turbits and Tumblers. Though an inch and a half is a long beak, it must not measure less than an inch and a quarter in length. The head is long, oval, and flat: this appearance is increased by the plumpness of the wattle. The neck is long, thin, and taper, forming a cone well adapted to cleave the air. At the base of the bill and around each eye there grows a naked, fungous, fleshy excrescence, called the wattle, which is a very remarkable and striking feature in Carriers and such pigeons as are cross-bred from them. It increases with age; and the greater its development, the higher value is set upon the bird displaying it.

Horsemen and *Antwerp Carriers*, though perpetuating

themselves as a distinct breed, are undoubtedly derived by crossing the Carrier, as some say, with the Tumbler or the Powter, but more probably with the Blue Rock Dove. They display, in a less degree, the same caruncu-lated flesh at the base of the beak and naked circle of flesh around the eye, and the same length of beak and taper form, together with a size of frame above the ave-rage of pigeons. To be used as letter-carriers, they require to be trained in exactly the same way, and are admirable both as excellent breeders of their own young and as nurses of the progeny of other breeds. In all cases where it is desirable to make Antwerp Carriers take charge of the squabs of other pigeons which are bad nurses themselves, such as Powters and Almond Tum-blers, it is better to substitute a couple of eggs, and cause them to be hatched by the foster-parents, than to shift the young from one to the other at a later period.

Well-bred birds, both Carriers and Horsemen, are often kept during their whole lives in dealers' cages, and then little observation of their movements can be made; but when indulged with liberty, they are impetuous and active, even more so than the Rock Dove, which would be the next best bird to employ as a letter-carrier. Such incarcerated birds can sometimes be bought with a war-ranty of their having never been flown; but even then great caution must be exercised in letting them out for the first time; they are apt, in their joy at emancipation, to dart off in a straight line, as if by some instinctive im-pulse, even though they have no known home to go to, and so lose themselves beyond the power of retracing their way; their acquaintanceship with the other pigeons of the same loft offers the best chance of regaining them in such cases.

The *Lace Pigeon*, and the *Frizzled Pigeon*, or *Frill-back*, are both rare birds The former is entirely white, approaching in size and shape to the Runt. The web of the feathers is loose and disunited throughout the whole plumage, which has a considerable resemblance to what is observed in the Silky Fowls. The Frizzled Pigeon has

its feathers curling back, as if they had each received a twist with a pair of curling-irons. Aldrovandi, in his "Ornithology," figures a "Columba crispis pennis," a "Dove with frizzled feathers," without giving a description of it; but proving, however, that among pigeons, as among fowls, there have existed, for some hundred years at least, frizzled—or, as they are called by some, Friesland—races of birds. It would appear that more than one breed of pigeons occasionally produces laced and frizzled individuals.

PIGEONS THAT ARE USUALLY KEPT AS CAGE-BIRDS MERELY.

Besides the above domestic pigeons, there are one or two other species so well known in captivity, and so interesting in themselves, that our present book would be incomplete if it neglected to make some mention of them. Amongst these, the most popular favourite is decidedly the *Collared Turtle*, the *Columba risorius* of Linnæus, and the *Turtur risorius* of other authors. A confusion exists in the mind of many people between the common Turtle, *Columba turtur*, which is frequent in a wild state in England during the summer months, or the Turtle Dove, in popular English, and the Collared Turtle, or *Turtur indicus*, as given by Androvandi, which in England is only known in captivity. As the European Ring Pigeon has a similar ornament on the neck with our present species, the latter has received a distinction of name founded on its coo, which strongly resembles a laugh, and from which it has been called the *Turtur risorius*, or Laughing Turtle.

The Collared Turtle has been admitted into the class of pigeons that are found both in a wild and a domestic state, rather by courtesy than by right. In their wild condition, they are met with in Southern Europe, Northern and Western Africa, and in Western Asia; in their tame state, they are dispersed all over the civilized globe where the winter temperature does not forbid their introduction.

As domestic animals, they can hardly be said to have yet received a sufficient training. Their intellect has just attained to that child-like stage of development, that they love everything about them intensely, and are pleased with everything they see; but if they were once lost in the labyrinth of a lane, or in the mazes of a grove, they would wander up and down, like the babes in the wood, picking a seed here and a berry there, searching in vain all the while for their wished-for cage or chamber, till they were drowned in the first thunderstorm, or perished by the first frosty night. And then the Robin Redbreast, or the sighing wind, would cover them with leaves, and complete their sylvan funeral.

If we could but advance this incomplete mental growth, only just a little, and add to it the intelligence and domesticity of the fowl, and the local memory of the Carrier Pigeon, we should then have a bird which, in spite of the tenderness of its constitution, would occupy a very important place in our rural economy. But the result of all our attempts of this kind is, to find that the grand scheme of nature is unalterable by man. We cannot educate and improve the Collared Turtle to be a Dove-house Dove—at least, a two thousand years' trial has proved unavailing. These unyielding limits assigned by the Creator must be acknowledged to have an existence as a rigid law.

The Collared Turtle, we know, is intrusted sometimes with a sort of half-liberty—the run of a large mansion, or the permission to pop in and out a greenhouse. A letter from a friend, now lying before us, says: "I have Turtle Doves flying about, mixing freely with the other pigeons, and so tame as to light upon my head." But, in truth, the Collared Turtle is only allowed to *play at* domesticity, and is, all the while, only a jealously-watched captive. Our own birds have often got loose in summer-time; and they seemed to think it excellent fun to do so. And then they would go cooing about with short flights from tree to tree, sometimes keeping close at home, sometimes getting out of bounds and losing themselves. The coo

answers the purpose of a call-note when the pair are invisible to each other among the branches. It has escaped from Aristotle, in his account of pigeons, that *blinded* Turtles were frequently kept as decoy-birds. But our runaways were at last heartily glad to be caught and brought home; and, like truant schoolboys on the approach of nightfall, would rather encounter a scolding, or even a whipping, than face the horrors of a supperless night, without a bed to lie on.

These birds may be easily kept. They will live well on wheat, barley, gray peas, bread in crumbs, or even boiled potatoes. They ought to have a flat vessel of water to wash in, as well as to drink, sufficient earth with gravel to rub themselves in, and from which they can select stones for swallowing into their gizzards for the trituration of their food. They should also have a piece of rock-salt, of which all the group are excessively fond, and it seems to be a wholesome stimulant to their system. Cages are too small for their healthy, handsome, and vivacious existence. They like to fly at times from perch to perch in a room, which should be well lit, not exposed to cold, and, above all things, frequently cleaned out. They enjoy sunshine much, and in it exhibit very elegant attitudes, and good contrivances to receive as much of its light and warmth as possible.

The Collared Turtle is strictly monogamous, and it is from their constancy and tender affection for one another (for their attentions deserve that name) that the characteristic has been proverbial. The male is somewhat larger than the female, and the colours a little lighter; but the distinction is so slight as to require a practised eye to notice it. The male is also a bolder bird, so pugnacious as to fight even with inanimate objects; although the female, when sitting on her eggs, or when nurturing her young, is courageous and even passionate.

The Laughing Dove builds rather a careless fabric of a nest. Both male and female assist in the work; that is, the cock brings the materials, and the hen is the architect. She lays two white eggs. The birds sit alternately

and assiduously. The cooing of the bird which is not sitting is incessant, and the attention paid to the one on the eggs most exemplary, and creditable to their family character. After the chick is hatched, a whitish fluid is supplied from the crop of both male and female to the young; its bill is then quite soft, and is thrust down the throat of the parent birds for nutriment, which action, like most functions of necessity, is a pleasure to the giver as well as to the receiver. This lactiferous secretion has led to the existence of the once problematical notion respecting "pigeons' milk." As the bird grows and begins to peck, the parents put him on his own resources; the secretion grows less; the young bird sheds the outside skinny covering of his soft or sucking bill; it gradually hardens, so that he can peck gravel and corn; and his parents turn him adrift to form other friendships for himself, as they then have done with him. From the first, the education of the young birds is steadily proceeded with. When they are about a month old, the female considers it high time for them to learn to support themselves. She therefore refuses to feed them more than twice a day. But the youngsters, not liking the trouble of picking up the hard grains of wheat and barley, become clamorous, and chase whichever parent happens to come in their way, stoutly demanding food all the while. The mother acts up firmly to her principles; so, finding her unyielding, they then attack their unfortunate father. *He* cannot resist their cries and flapping of wings, and goodnaturedly opens his mouth for the reception of the soft spoon-shaped bills. But he is made to suffer for his weakness; the lady soon drives away the petitioners, and then beats her lord right well, laughing heartily all the while, for attempting to interfere with her system of instruction. This discipline is often so severe, and commenced so early, that the young ones must be removed and brought up *by mouth*, if it is intended to rear them at all. The Collared Turtle will also exercise its combativeness on any strange bird of moderate size that ventures to intrude within its aviary. Of

all sleepers the Collared Turtle is one of the lightest. Each time during the night that a clock strikes, the birds announce the fact by cooing loudly. Any noise is observed by them, and *never* passed over in silence. The sound of a piano in an adjoining room, or the tramp of footsteps in a passage close by, will excite the never-forgotten coo.

Their feet are formed for walking and perching; they feed on the ground accordingly, but most usually roost upon a perch. Their colour is a light fawn, of different depths of shade, the back the deepest, with a nearly black half-collar on the hind neck, inserted within a very narrow white circlet, which throws up the dark collar brilliantly. Young birds do not have this black stripe distinctly marked till they have moulted. The irides are crimson, the pupil black, the bill black, the feet lake-red. A wide distinction between the pigeons and the turtles is indicated by the time of incubation of our present bird being only fifteen days from the laying of the first egg. The eggs, too, are laid on *consecutive* days. The growth of the squab of the Collared Turtle is even more rapid at first than with domestic pigeons; afterwards it proceeds at a slower pace. The little thing is hatched blind, and weak, and covered with fawn-coloured down. On the fourth day its eyes are partially open, and feather-stumps begin to appear on the wings. Both the parents will sometimes be on the nest, and strive which can administer food the fastest. In five days more it is pretty well covered with feathers, and begins to squeak.

The Stock Dove (*Columba anas*) makes a very elegant and pleasing aviary bird. Its plumage is rich, bluish gray being the prevalent hue; and the changing colours of the neck are more gem-like than those of common pigeons. Taken from the nest when young, it is easily reared, and becomes as familiar and *apparently* as much attached to home as the other sorts usually kept. It will even return to its cage after being loosed from it. But as the birds get older, a pining for the woods comes over them; they make excursions to the neighbouring

groves, returning less and less frequently to the place where they have been nurtured, and are still supplied with food by man, till at last they are utterly fascinated by the delights of sylvan freedom, and become followers of Robin Hood and other forest-haunting outlaws; not that they love man less, but that they love the woods more. If, therefore, they are to be retained in captivity, an aviary must ever be their prison, unless it is preferred that they should go at large in a still more sorrowful condition, with a clipped wing or a shortened pinion. The food of the Stock Dove, in a state of nature, is composed of young green leaves, seeds of plants and trees (hemp, rape, and others), berries, beech-mast, acorns, peas, and grain of various sorts. A Stock Dove and a Blue Rock Dove have in vain been kept together a long time, for the purpose of making them pair.

The *Ring Dove* (*Columba palumbus*) is a much larger bird, of perhaps still more beautiful plumage. It is, however, more difficult to rear. The best way to procure them for the aviary is, to get from the nest three-quarter grown squabs, and feed them, *by mouth*, with peas and water. They are too large to be easily brought up by domestic pigeons as foster-parents. In a wild state, they are extremely shy and suspicious; but many authentic and interesting anecdotes are on record of the strong attachments they have formed when reared as pets.

Ring Doves are irregularly migratory, sometimes appearing in large flocks, the numbers composing which seem incredible when estimated. They commit great havoc on the new-sown grain and the buds of the young clover-plant; they eat great quantities of mast, and also the seeds of noxious weeds. Rewards have been offered in Scotland for their destruction, with the view of keeping them down; but this is of little use, unless at the same time a tall net, over which they could not fly, could be stretched, as a colossal fence, somewhere between Norway and our eastern coast. The best means of reducing their numbers is, to publish their excellence for the table at the times when they do not feed upon tur-

nips. When they do, they punish the farmer indeed, pecking holes in the bulbs for the frost and wet to work upon. The young birds would be acceptable in London during the height of the fashionable season; but *then* no gamekeeper will allow a gun to be fired in his preserves, lest more valuable prey should be driven into the next parish.

The *Turtle Dove* (*Columba turtur*) is a very pretty, very untrustworthy little creature, less known than the preceding species to common observers. When reared from the nest, it becomes tame enough to be even an interesting cage-bird; but a pair thus educated, and seemingly contented, in a greenhouse, slipped out cunningly, and were never heard of again. Perhaps, by the time their flight was discovered, they had got half way to Africa; for the very best part of the year only, from May till September, will suit them with us. They adopt the family habits of drinking deeply at a draught, and tickling each other's heads. The coo might be mistaken for the croaking of a frog or a toad. When heard close at hand, it has a sort of burring, bubbling sound, and consists of two syllables or measures, the second being reduplicated, and the whole accented like the words, "Ah, mamma!" The Turtle Dove is much the smallest of our native *Columbidæ*. The plumage may be generally described as ashy brown; the spot on the side of the neck, and the white tips to the tail-feathers, are the most ornamental points of it. In the spots on the neck trifling variations occur, which may safely be referred to age. In Shropshire, this bird is believed to be found nowhere else, except about the Wrekin, and hence is claimed by them as the Wrekin Dove.

Ourselves have kept a pair of Turtles for a considerable time as cage-birds. After a while, the hen died, we fear from the fright and annoyance caused by a terrier puppy occupying the same room (our study) at night. We had no hope of finding up, in England, a mate for the solitary widower, so we turned him out into the garden to give him an opportunity of migrating and finding a partner in

some other quarter of the world. He flew away into a neighbouring clump of trees and shrubs, and we concluded that he was gone for ever. But on entering our stable, after the interval of a day, we heard something flutter there. It was the Turtle Dove come back for food and shelter. We took pity on his helpless plight, and restored him to his cage again.

We will briefly notice a few foreign pigeons, as suitable for the cage or the aviary.

First stands the *Wonga-wonga Pigeon*, the *Leucosarcia picata* of Gould's "Birds of Australia" (from the Greek *leucos*, white, and *sarx*, flesh; *picata* being Latin for "besmeared with pitch," in allusion to the black-patched plumage of the bird). This bird is an object of more than ordinary interest, since, independently of its attractive plumage, it is a great delicacy for the table; its large size and the whiteness of its flesh rendering it in this respect second to no other member of its family—the one at all approximating to it being the *Geophaps scripta*. It is to be regretted that a bird possessing so many qualifications should not be generally dispersed over the continent of Australia; but such is not the case. Its distribution depends mainly upon whether the surface of the country be or be not clothed with that rich character of vegetation common to the south-eastern portion of the continent. As the length of its *tarsi* would lead one to expect, the Wonga-wonga spends most of its time on the ground, where it feeds upon the seeds and stones of the fallen fruits of the towering trees under whose shade it dwells, seldom exposing itself to the rays of the sun, or seeking the open parts of the forest. While traversing these arborean solitudes, one is frequently startled by the sudden rising of the Wonga-wonga, the noise of whose wings is quite equal to, and not very different from, that made by a pheasant. Its flight is not of long duration, this power being merely employed to remove it to a sufficient distance to avoid detection by again descending to the ground, or mounting to the branch of a neighbouring tree. Of the nidification of this valuable bird, no precise

information had reached Mr. Gould, from whose great work the above particulars are taken. It is a species that bears confinement well, and (in his opinion) with an ordinary degree of attention, may doubtless be rendered domesticated and useful. We should be glad to find that result confirmed by facts, but confess ourselves to be less sanguine than he is. The sexes present no external difference in the markings of the plumage, but the female is somewhat inferior to the male in size.

The *Bronze-winged Pigeons* follow next to the *Leucosarcia* in interest; which, however, arises from totally different considerations. No hope of domestication can be admitted here, even if it were allowable for others. The Bronze-wings love to dwell on the most sterile plains, where they feed almost exclusively on grass-seeds and berries, and whence, on the approach of evening, they wing their way, with arrow-like swiftness, to the water-holes many miles distant, for a supply of that element so essential to life; besides which, they are nearly all strictly migratory birds. Africa has her Honey-guide, and Australia may boast her Water-witch. The Bronze-wing is the friendly indicator of waters in the wilderness, when the thirsty and dying traveller has almost ceased to hope. In Australian maps, the name of "pigeon-ponds," given to welcome pools of water, still marks the mode of their first discovery.

In these birds, the rich metallic lights which adorn the necks of our pigeons, seem transferred to the wings. Temminck's description of the Bronze-wing is most inviting. It is one of the most beautiful pigeons known to him. "Brilliant specks, of a radiant lustre, are sprinkled on the wings of this bird, whose plumage, generally of a uniform colour on the rest of the body, aids still more to relieve the dazzling richness of these spots, which shine like so many rubies, sapphires, and opal-stones. The species appear in general very abundant in all parts of the Pacific Ocean; they are found at Norfolk Island, in different parts of New Holland, and are especially very common in the environs of Sydney Cove and Botany Bay."

Can we conceive a more charming tenant of the aviary than a bird like this?—a bird which flits at the present hour before the eyes of our fellow-subjects and blood-relations at the antipodes; which must have engaged the attention, and doubtless often diverted the sad remorseful thoughts of the convict; which excited the curiosity, and satisfied the cravings after fresh meat, of such men as Sir Joseph Banks and Captain Cook. When we see it caged in our presence, and trimming its glittering epaulettes in the sun, we cannot look upon it with indifference, without some wish that it could be made to dwell, unrestrained, in our dovecots, and afford matter of instruction to our children, by the innumerable associations and lessons connected with its history.

The Australian pigeons are specially interesting, inasmuch as their whole history, from the first acquaintance of civilized man with them, is likely to remain ever accessible to future naturalists, and so will, hereafter, furnish a record of what modifications, if any, captivity and domestication are able to effect in their outward appearance and inward disposition. They have not yet all been brought alive to this country; but every fresh ship-arrival may obviate that cause of ignorance here, respecting their capabilities. It is in England, probably, rather than in their native country, that their domesticability and readiness to breed in confinement will be tested, as has been the case with the Black Swan and the Cercopsis. Some of this family, as the Crested Marsh Pigeon and the Common Bronze-wing, have already bred in confinement. It remains to be proved whether the Wonga-wonga, Mr. Gould's special *protégé*, will turn out as manageable as he anticipates. The migratory habits of the Australian Pigeons are an apparent bar to their domestication; but, in truth, they have no choice, except to migrate. In the interior deserts nearly all the birds are compelled to change their ground, as the terrific summer advances. All the feathered tribes, Pigeons, Bitterns, Cockatoos, and other birds, are compelled by the intense heat and total want of water, to pass away simultaneously in a single day.

The power of ventriloquism is a faculty that one would hardly expect to find amongst Pigeons. Some of these birds, however, do possess it. Whether it is exercised generally, or on occasions only, does not appear. Temminck says, that "it is easy to make sure of the Lumachelle's (or Bronze-wing's) retreat, for their very sonorous cooing, at a certain distance, resembles the lowing of cows." Wilkinson's "Manual for Emigrants" speaks of "the unearthly sound made by the Bronze-wing Pigeons," during the moonlight stillness of a South Australian night. Those who have kept the common Bronze-wing in a cage, say that it can throw its voice to a distance, making it sound as if it came from some bird a long way off, though the creature itself may be close to one's elbow. Another species, the *Geopelia tranquilla*, one of the tiny Ground-Doves, exercised its talents in puzzling Captain Sturt, during his exploring expeditions; from which circumstance he named it "the Ventriloquist." The fact is, that the creature possesses the power of throwing its voice to a distance; he therefore mistook it for some time for the note of a large bird on the plains, and sent a man more than once with a gun to shoot it, without success. At last, while sitting one day under a tree, he again heard the note, and sent his man once more to try and discover what bird it was; when, on looking up into the tree under which he was sitting, he saw one of those little doves, and ascertained, from the movement of its throat, that the sound proceeded from it, although it still fell on his ears as if it had been some large bird on the plain.

The *Harlequin Bronze-wing* (*Phaps peristera* of Gould) is an extremely beautiful creature. It derives its name probably as much from the black mask with which its face is covered, as from the gay colours with which other parts of its person are decorated. It has lately bred in this country, under most paradoxical circumstances, if we were to estimate its degree of hardiness from the climate of its native regions. It is an instance, very similar to the Guinea-fowl, that practical

zoology, or the art of breeding and rearing animals, is as much an empirical science as practical chemistry; and that we can form no safe *à priori* conclusions respecting the constitutional powers of any untried living creature. Everything must be tested, both singly and in combination, or by inter-breeding. The Harlequin Bronze-wing, a native of the burning wastes of Central Australia, bred in the menagerie of the late Earl of Derby, at Knowsley, towards the close of the summer of 1850. They made their nest on the ground in an open pheasantry, merely under the wired part, and were occasionally exposed to heavy rains; notwithstanding all which, young were reared. But it is probable that if the squabs had been coddled up in heat, they might not have thriven so well. Still, their being reared at all is an extraordinary fact. The temperature of their birthplace, at Knowsley, would be at least 60° or 70° lower than in Australia. Who then can guess at any creature's powers of endurance, their own included, till they try them?

Unfortunately, the *Speckled Dove, Graceful Ground Dove, Geopelia cuneata*, is an instance that hardihood is not the universal rule with pigeons that have been brought up to bear the bakings of the great Australian oven. All that we read or imagine of the softness and innocence of the dove is realized in this beautiful and delicate little bird. It is very small, and has a general purple plumage approaching to lilac. It has a bright-red skin round the eyes, the iris being also red, and its wings are speckled over with delicate white spots. Its note is exceedingly plaintive, resembling, though in a softer tone, the coo of the European Turtle Dove. It is a great pity that such a sweet little creature can hardly be got through a British winter in a snug cage in a warm room. Admiring amateurs are advised to purchase in spring instead of in autumn.

To pass to other continents, the *Passenger Pigeon*, from North America, and the *Long-tailed Senegal Dove*, from Africa, are both equally propagable in an aviary, unmanageable in a cage, and unsusceptible of domestication.

Escaped individuals of the former species have been made the pretext of its admission into the British Fauna; but there is no instance of its nesting here. The Senegal Doves might be naturalized in England, if poaching naturalists would only allow them. In the woods about Knowsley they have been heard uttering their curious song, which sounds very like the commencement of a negro melody—two crotchets to one bar, and four quavers to the next, in regular succession, all on one note.

The pigeons mentioned in the last few pages are all suitable for the aviary only, except the dwarf little Speckled Dove, a pair of which, if a gardener would but consent to their presence, would thrive best in the dry stove. There seems, however, no reason why a hothouse should not be devoted to the convenience of birds, instead of plants, in the grounds of a wealthy bird-fancier. For the welfare of foreign pigeons in an aviary, live turf, calcareous earth, gravel, shell-sand or calcined oyster-shells, salt, fresh water, and shallow bathing-places are desirable. Our ordinary grain and pulse may *suffice* for their diet; but it should not be forgotten that many of them are vegetable and fruit-eaters; it is wise, therefore, to offer to any little-known species that may come to hand, cabbage, Swede turnips, hips, haws, snow-berries, and such like, in their season. A shelf screened off in an obscure corner near the roof will sometimes tempt them to breed; a wooden bowl, stuck among the branches of a tree, will give the hint that eggs may be laid there. A few sticks and straws scattered about are great inducements to amorous birds to begin furnishing their apartment. And finally, whoever has the taste and the wealth to amuse his leisure with this kind of relaxation, will also have the tact to know that Nature is the best aviary-guide.

RABBITS.

ANTIQUITY OF THE DOMESTIC BREEDS.

This little treatise does not furnish the proper occasion to inquire into the origin of our domestic rabbits ;—when, where, or whether at all derived from the wild rabbits which now inhabit our island. Suffice it to say that there appears every probability that the most remarkable varieties have come to us from the East,—from Persia, namely, Arabia, and the adjacent countries. The tame races which have the greatest claim to style themselves aboriginal, were in all likelihood existing in their present state long before the commencement of any historical epoch in Great Britain. Cæsar's well-known passage,* to our mind, states as much, when he writes, "The inland parts of Britain are inhabited by those whom fame reports to be natives of the soil. They think it unlawful to feed upon *hares*, pullets, or geese ; yet they breed them up for their diversion and pleasure." We have little doubt that the domestic "hares" thus alluded to were magnificent fancy rabbits, such as we now so highly admire. A rabbit as large, and nearly of the very same colour as a hare, might excusably be mistaken by the Roman invaders to *be one* actually. An advertising dealer has even called his pet breed "Hare-Rabbits"—more, we presume, to indicate their weight and stature, than to imply them to

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* *De Bello Gallico*, lib. v. cap. xii.

be the result of any crossing of the two species.* It was to be expected, in the records of Holy Scripture, that a creature whose flesh was forbidden as unclean, should receive little further notice than the simple prohibition: "The coney, because he cheweth the cud, but divideth not the hoof, he is unclean unto you."†

USES AND MERITS.

The utilitarian value of the rabbit to man is greater than appears at first sight. Independently of the fur, which enters largely into the manufacture of hats and other felting processes, and which is often the first point of consideration with warren proprietors, the skin makes an excellent glue. The flesh, if not particularly nutritious, is at least a light and agreeable article of food. The immense importation from Ostend to London is a proof, on a large scale, of the way in which it is appreciated; while none but those who have lived in the country, and have received the unexpected visit of friends to dinner, can form an adequate idea of the convenience of having a plump rabbit or two at hand in the hutch. The dung of these animals is an excellent manure for clayey soils, and is particularly serviceable in the culture of many fibrous-rooted greenhouse plants.

But we hold that, besides their material profitableness, there is a moral value attached to these creatures. They afford an early lesson to the young of the responsibility of having live animals to tend; their proprietorship affords an opportunity of exercising the priceless qualities, in after-life, of thrift, attentiveness, good management, forbearance, and forethought. Innocent and unfailing amusement is thus derived from the daily practice of prudent habits, which are an excellent preparation for a subsequent charge of greater importance and difficulty.

The rabbit shares with the fowl and the pig the merit

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* All attempts of the kind have failed utterly.

† Leviticus, xi. 5.

of being a save-all—a transmuter of useless scraps and offal into useful and valuable fur and flesh. All sorts of hedge-trimmings, tree-prunings, box-clippings, and weeds which are not of too moist a nature—all of which would otherwise meet with no better fate than to be swept away to the rubbish-heap—will, with the addition of sufficient dry food, serve to maintain a little stud of rabbits. The cast-out refuse of three or four gardens, in the hands of many an ardent young stock-master, would serve, under a judicious administration, to rear, feed, and fatten his little flock. And in housekeeping, as well as in agriculture, trifling means of profit ought not to be neglected, when they are capable of being secured with only trifling exertion and the outlay of a small amount of capital, and especially when they are, as in this instance, the natural appendage of every poultry-yard or homestead which pretends to be of the least importance. The misfortune is, that exaggerated promises have from time to time been given to the world. For instance, it could do no good that a French writer, M. Despouy, should guarantee (on paper) an income of 800*l.* a year to whoever would invest a capital of 20*l.* in rabbits, and follow the instructions contained in his pamphlet.*

On the other hand, it is a false accusation to charge these animals with consuming any undue and enormous quantity of fodder. Some authors have asserted that ten rabbits will eat as much as a cow; but it seems to be proved that it would take at least fifty or sixty of them to effect so great a consumption as that. Probably the observers who have stated the fact, founded their calculations on the superfluous quantity of herbage which might have been supplied, and which the rabbits soon reduced to the state of filthy litter. The objection made to the unwholesomeness of rabbit-keeping, in consequence of the smell which their hutches emit if neglected, is equally applicable to any other breach of cleanly habits. The

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* *Le Lapin Domestique.* Paris: 1838.

evil and the remedy are in the hands of those who make the complaint. The rabbit itself is naturally a cleanly animal, and when confined by itself will always choose one particular spot or corner to deposit its ordure in, and will be careful not to defile any other. The cabbagy taste with which Boileau has stigmatized the flesh of the tame rabbit is easily prevented by feeding the animal on a more proper, natural, and rational diet. The cottager, the only meat on whose table is often a morsel of salt pork, will not prove so hard to please when he sits down to a fine rabbit of his own rearing and fatting. Tastes, moreover, differ as to the preference to be given to the wild sort or the tame.

NATURE AND HABITS.

Every class of stock-keeping and menagerie management, in order to be permanently successful, and not conducted at mere haphazard, must be founded on a previous knowledge of the habits and constitution of the creatures kept; and therefore, as we here desire to communicate all the information which a novice requires, we believe that the inexperienced rabbit-keeper will best understand the theory and principles of his art, if we first make him acquainted with the precise nature of the animal with which he proposes to deal.

The rabbit belongs to that order of the class Mammalia, or suck-giving animals, which is called *Incisores*, because they *cut* their food with the front teeth of their upper and lower jaws. They do not grind it, like the horse, the ox, and the elephant, for the simple reason that they have no grinders or molar teeth. Some of these "cutters" are carnivorous, or rather omnivorous, like the rat; others are herbivorous in general, but occasionally insectivorous, like the Guinea-pig (which the old French writers call the *Connil d' Inde*, or Indian rabbit); some, like the hare, feed exclusively on vegetables and grain; and the rabbit, unless under exceptional circumstances, to be mentioned by-and-by, belongs to this latter category. The rabbit and the Guinea-pig are the only "cutters"

that have been strictly *domesticated* by man; though he has made *pets* of the squirrel, the dormouse, the marmot, the albino mouse, and one or two others.

The male rabbit is called "a buck," the female "a doe." The English language has not, like the French, a special word (*lapereau*) to denote the young. "Coney" is an old word for rabbit, nearly obsolete in modern speech, but which still has its representative in many of the European languages. Rabbits are polygamous; one male being quite sufficient for as many as thirty females; in warrens, only one is allowed to a hundred. The adult bucks are unbridled, overbearing, mischievous, and quarrelsome. Success very much depends on the way in which they are managed; and consequently rabbit-keeping is an amusement better adapted for boys than for girls, unless, indeed, they have an elder brother or parent who will take upon himself the entire direction of the breeding department.

BREEDING.

Although doe rabbits sometimes will and can breed before they are six months old, that age is the earliest period of their life at which they ought to be allowed to do so. If they begin earlier, they are liable to abortion; and even if that misfortune is avoided, their little ones come into the world exceedingly weak, and sometimes defective. It cannot be expected to happen otherwise. Nature, in spite of all her efforts, will fail to develop at the same time the strength of the mother and of her offspring also. The attempt will assuredly be made at the expense of one of the two—probably of both. The young ones will have to suffer from an insufficient supply of milk; their constitution will prove weak and rickety; and the chances are, that they will die of debility before attaining an age to be of any use. The mother is kept in a lean and excited state; and, with every pains that may be taken, it will be found extremely difficult to bring her

into condition again. In selecting young does to breed from, it is better to choose such as have been dropped in the month of March; they will then be ready to go to the buck by the beginning of November, and their first produce will be fit for sale in the course of the following winter.

The doe goes with young thirty, or sometimes thirty-one, days; in common parlance, call it a month. A fortnight after she has littered, she is ready to visit the male again, with whom she should be placed in the evening, and returned to her young the following morning. She *might* be put to him five or six days after bringing forth, as she is almost always in heat; but she requires a fortnight's repose to recover her strength. She breeds throughout the winter as well as in summer, and will, therefore, according to strict theory, produce eight litters in the course of a single year. But all this supposes every circumstance to be invariably favourable; that she should be thoroughly well fed, never out of health, and that no untoward accident arrive. A much safer calculation is to reckon upon six litters a year; some breeders are even contented with supposing five to be successfully reared. When the buck is not more than five or six years old, and the doe than five, it is very rare that she misses. But should it so happen, give her a nutritious and stimulating diet, such as parsley, celery, fennel, thyme, and other aromatic herbs, besides a liberal diet of oats, bran or pollard, and sweet hay; keep her tolerably warm, and in a few days she will be all right again. After her night's absence, she will be returned to her own hutch, and will then suckle her last progeny another week longer. To keep all the parent animals in this constant state of isolation is one of the main and fundamental maxims of rabbit-keeping; for the buck will not only greatly harass the doe, if he is allowed free access to her, but will often kill the young while they are still blind and helpless.

The number at a birth varies from two or three, up to eight, ten, and even fourteen young ones. In general,

the larger the breed, the fewer at a birth. As many as eighteen have been known in extreme cases. But eight or nine are a much better average: some breeders prefer to have no more than five or six, and take away those that are in excess. When it can be done without too much disturbance, the plan is a good one, especially when the doe has lost or destroyed her former litters. Sometimes, when she is weak and exhausted at the time of littering, and feels that she can only suckle a limited number, she herself will save her owner the trouble of killing the supernumeraries, and will calculate according to her strength how many ought to be spared. But take six as the average number of little ones to be produced at each of six litters, and we have thirty-six rabbits in the course of a twelvemonth as the produce of a single doe. More than that; at six months old, the young rabbit is fully capable of becoming a parent in its turn. In two years, therefore, we should have four successive generations of rabbits all the while that the fecundity of the original ancestress is still going on; thereby interweaving amongst themselves intricate degrees of relationship, which would puzzle the most learned genealogist to define accurately, and amounting to such a multitudinous rabbit population as no arithmetician can accurately calculate, from the impossibility of foreseeing the accidental checks to which so redundant an increase is liable. Pennant's sum-total will suffice as a specimen. Rabbits, he says, will breed seven times a year, and bring eight young ones each time. On a supposition that this happens regularly during four years, their numbers will amount to one million, two hundred and seventy-four thousand, eight hundred and forty head.

MANAGEMENT OF THE BREEDING DOE.

The breeder ought to know by his stud-book (for he will probably give names to his favourites) the day on which each doe is to bring forth. A few days beforehand, he will throw into the hutch a large handful of

coarse but sweet hay. She will immediately make use of it to form her nest, and will employ for the same purpose any scraps, shreds, or odd bits that she can lay hold of. This first outside structure arranged, she then strips off the fur from beneath her belly, and devotedly denudes herself, to secure a soft warm couch for the reception of her expected young. At this period neglect may be fatal; she must at the same time be kept quiet, and well fed to support her in nursing. The omission of a single meal may check her milk, and occasion the death of several young. Few things are better for her than carrots and oats. Wet vegetables are especially injurious. During the first week let her have plenty of bran, mingled with a little salt.

If the doe has had a previous litter, they must all be removed before she brings forth a second time; her hutch, too, ought to have been well cleaned out. Take care not to touch the young; unless, at least, they are deposited in a wet place, or any of them die. All unnecessary disturbance or handling, is apt to make the mother kill the whole of her family. When you find that a doe overlays or eats her young, mark her well, and remember the circumstance; for should the same misfortune happen again, the best thing to be done is to fatten and kill her. If, however, she be a favourite animal, and an attempt at reformation be resolved upon, she must be abundantly fed with good substantial food and disturbed no more than is absolutely necessary.

MANAGEMENT OF THE YOUNG.

The little rabbits are born blind and helpless, covered only with a short velvety down. On the fifth day they open their eyes; on the sixth, the liveliest fellows amongst them begin to peep outside the nest. At a month old they eat alone, and partake of food together with their mother. At six weeks old they no longer require the doe, and ought to be weaned. This short period is quite sufficient to allow to be spent in the first term of rearing them. If they were left longer, they

would be apt to exhaust the dam, which ought to be avoided. After weaning, two modes of feeding have been adopted with equal success; the first is, to introduce all the weanlings, from time to time, into a large hutch or common apartment, in which they are tended carefully, kept warm and clean, and fed several times in the course of the day. At each feeding-time, every particle of victuals which has been trampled upon, is scrupulously withdrawn; and it is found that, by observing these regulations, the losses are very few, or none. When two months and a half old, they are placed with those that are destined for the table. In this case, the precaution is taken to cut the males before they are thus set at liberty in mixed society. They will fatten on carrots, oats, hay, and bran, with a few peas now and then.

The second plan is to keep together all the young rabbits of the same month; that is to say, they are distributed in six large hutches or apartments, care being taken to separate the males from the females (or to cut them) by the end of the third month. From the fifth to the sixth month, all those intended for sale are disposed of, after selecting the handsomest and best-tempered does to serve as breeders. Does will continue prolific till they are five years old; after that it is usual to fatten them for the table, though in such cases the purchaser may have to complain that he has met with a hard bargain. Beyond that age, it is rare to meet with rabbits surviving in a domestic state. The duration of their natural life is said to be no more than from six to eight years. Buffon extends the term to nine.

FEEDING AND KILLING FOR THE TABLE.

The flavour of tame rabbits is improved by feeding them, a few days before they are killed, on aromatic plants, of which the list is numerous. Some people also

fill the belly of the rabbit, after it is killed and drawn, with a wisp of thyme, marjoram, and sage. The usual mode of killing tame rabbits by giving them a blow behind the ear, is faulty, and liable to the objection that a large quantity of blood coagulates about the place which is struck. It is better to kill them exactly like fowls, by cutting the jugular artery, and then to hang them up by the hind legs. In that position the blood drains away, and the flesh is rendered beautifully white. The skins, however, suffer, and sell for less if they are besmeared with blood. The cook's perquisite is thus diminished; and, in rabbit-keeping on a large scale, the reduction of price would be of serious importance.

CASTRATION.

The contempt with which such small cattle as rabbits are usually regarded by practical people, is the cause why they are but rarely subjected to the operation of castration, which, in their case, is performed with greater ease, and even more satisfactory results than on oxen, sheep, and pigs. Nearly three hundred years ago, the practice was strongly recommended by the famous French agricultural writer Olivier de Serres. Does, he truly says, are very much better to eat than the entire males; and castrated rabbits are as much superior to does, as the flesh of a capon is to that of a hen. His plan was to turn out into the open warren a number of emasculated males which had been reared in hutches, and allow them to grow and fatten at liberty in the open air. We have eaten caponized rabbits in London; and they were far superior, both in size, flavour, and fatness, to what they would have been if suffered to remain in their natural state. We would advise every rabbit-keeper to castrate, at the age of three or four months, every young buck which he does not intend to dispose of or retain for breeding purposes. Besides the rapid increase in size, a great advantage gained is the conversion of a mischievous into an inoffensive animal. Instead of being often a dangerous enemy to the does, to the

young ones, and to the other bucks (for the males, if not so treated, will engage in deadly combats when they meet), it may then be suffered to associate indiscriminately with the others without fear or apprehension.

The mode of castrating rabbits is very simple. It is performed by seizing with the thumb and the two first fingers of the left hand one of the testicles, which the animal will endeavour to draw up internally. When the operator has succeeded in grasping it, he divides the skin longitudinally with a very sharp knife, presses outwards the oval body which he has seized, draws it out, and throws it away. After repeating the performance on the other side, he anoints the wounds with a little fresh hog's lard, or he closes them by a stitch with a needle and thread,—or perhaps he leaves the cure to nature. When the operation is skilfully performed, the healing process is rapidly completed; and it not only disposes the animal to carry a great deal more flesh and fat, but the skin also is considerably increased in value.

DISEASES—THEIR PREVENTION AND CURE.

Amongst rabbits, as with poultry, diseases are more easily prevented than cured. We have not yet seen advertised in the newspapers specific medicines for ailing coneys. "Roup and Condition Pills," and "The Poultry Restorative—a certain cure for all Diseases," may probably be useful tonics in the case of fowls; but with the delicate species of quadruped which is the subject of the present treatise, negligence and mismanagement are so fearfully punished, that it strongly behoves the amateur to take care that his arrangements and mode of feeding be such as to give him the least amount possible of disease to deal with. The loss of whole litters at once, or even a general mortality amongst his entire stock, will often be the consequence of carelessness and want of judgment. Many and many a small farmer and market-gardener has made the attempt to keep rabbits, and has soon given them up again, in utter disgust at the complete want of success

which has attended his efforts. A few plain hints might have saved him the disappointment, and have enabled him to conduct his experiment with a more satisfactory and profitable result. On this account we think it right to give a few short paragraphs on rabbit disease an early place in our practical essay.

BEDDING.

Thus, the quality of the litter given to domestic rabbits is a very essential point in rearing them successfully. The bad state of that is the cause of many of the diseases to which they are liable. The straw used for this purpose ought to be thoroughly dry, and frequently renewed. Every three weeks, the entire mass of their litter should be changed, especial care being taken to have it done a fortnight before the does kindle, and a fortnight after the birth of the little ones. It is a good plan, during the interval, to cover the old litter with a sprinkling of fresh straw from time to time.

Injudicious disturbance also will sometimes have as fatal an effect as a severe epidemic. We have seen that it is absolutely necessary not to be too much in a hurry to look at the young ones, for at least a week after their birth. It should also be remembered that the rabbit is naturally an animal of nocturnal, or we ought rather to say of crepuscular, that is, *twilight* habits. It is therefore an error to believe that it is requisite to give them a substantial meal at noon; on the contrary, nature and observation indicate that they ought to be left in quiet at that hour, when they are almost always in a state of repose, especially during summer. The best feeding-times are, very early indeed in the morning, and about sunset in the evening. They usually eat with the greatest appetite during the night. In some parts of England it is a popular notion that at full moon the wild rabbits purposely leave the mouths of their nesting-holes open, in order that the young ones may then venture out for the first time, and make their *début* in the world by moonlight. At full moon, country labourers say,

"We must now look out, to catch the young rabbits, because the mouths of their holes will be open."

QUIET.

However, one little act of disturbance may be ventured upon with due precaution. A few days after the birth of the rabbits, it will be advisable to ascertain whether their mother has deposited them in a dry spot; for if their nest is at all damp, they will infallibly perish. In such a case, the nest must be cautiously moved, in a lump, and shifted to the driest corner of the hutch. Experience has proved that this operation, if judiciously executed, caused no injury whatever to the young, and also gave no offence to the mother; but, after all, the expedient must be used with caution. The inconvenience which compels the rabbit-keeper to have recourse to it ought to be avoided by cleaning the hutches at regular periods, so that there shall be no necessity to intrude upon the privacy of the doe's nursery at the time when she is likely to be of a susceptible and jealous disposition. For this purpose it is requisite to note accurately the date of the doe's visits to the buck, in order to be able to change the litter in good time, and also to remove a first set of young ones when there is a prospect of their soon being followed by a second.

OPHTHALMIA.

Young rabbits are subject to a disease of the eyes, which is apt to attack them towards the end of their suckling, and which puts an end to them in a very short time. This disease is unknown to those who are scrupulous about the cleanliness and drainage of their hutches. It appears to be occasioned by the putrid exhalations from filth and urine in a decomposing state. In short, it is neither more nor less than ophthalmia, brought on by the caustic nature of ammoniacal vapour. When the malady is discovered in time, the young rabbits may sometimes be saved by transporting them into

another hutch that is perfectly clean, and well furnished with plenty of fresh straw.

THE ROT AND POT-BELLY.

The great cause of the shortness of rabbits' lives in domesticity is their liability to *the rot*, or liver-disease, produced by their being supplied with too much green food. Dry food, in short, is the grand thing to insure success in rabbit-keeping. That peculiar quality of diet is so absolutely necessary to the animals' well-being, that "DRY FOOD," in capital letters, ought to be painted within sight of every rabbit menagerie, whatever may be its form, size, or importance. Even the wild races, in wet seasons, are found lying about dead, as if their warren had been stricken with pestilence. The *rot* is as fatal to rabbits as to sheep. Therefore, a very necessary precaution, which cannot be too strongly insisted on, is to avoid giving tame rabbits too great a quantity of green and succulent herbage, which not only causes numerous deaths from indigestion, but what is worse, is apt to bring on another disease, only of too common occurrence, which is occasioned by the accumulation of an excessive quantity of water in the abdomen and bladder, and which usually proves fatal. The patient, in fact, becomes dropsical; and even if apparently cured for a time, is so apt to suffer a relapse, that the wisest way is to part with the animal. Rabbits so diseased are said to be *pot-bellied;* and when they get to an advanced stage of the complaint, doctoring is of but little use, and generally of none at all. Common rabbits, in such a case, are hardly worth the trouble of nursing. For fancy kinds of greater value, the attempt may be made; but we much more strongly urge the observance of preventive than of remedial measures.

The patients should immediately be put upon a drier diet. Pamper them with split-peas, barleymeal, malt-combs, and oatmeal. Oak-leaves, and the shoots of the tree, as food, are excellent. They should have hay, sound corn, and aromatic plants, such as thyme, sage,

marjoram, &c. In fact, all rabbit-masters who have a garden, will do well to cultivate an extra-sized bed of sweet herbs, as the best apothecary's shop which they can have recourse to in time of need. The whole family of umbelliferous plants appear to be both grateful and medicinal to the rabbit tribe; even hemlock and fool's parsley, poisonous plants to many other animals, are welcome as occasional dainties to them; hogweed, or the wild perennial parsnip, has been recommended by Cobbett with his usual force of natural eloquence. Garden parsnips and carrots are excellent, both for their tops and roots; likewise fennel, parsley, and chervil.

If the sick quadrupeds are kept to a regimen that is absolutely dry, a *little* water may now and then be given them; at all other times it is absolutely a forbidden thing. But wetted herbage, we insist, even if only moistened with dew, is poison to rabbits. The best mode of avoiding the danger is to cut their food the day before, and spread it out, in the sunshine or under shelter, to dry and wither. On the other hand it ought not to be cut several days beforehand; for if thrown into a heap, and so left to heat, it is likely to prove equally injurious. Of course, all diseased individuals should be carefully separated from those that are in health.

The same prudential sanatory measure is imperative when rabbits are attacked by a sort of consumption, or "rot," which reduces them to the extreme of leanness, and they become covered with a contagious scabbiness which is extremely difficult to cure. This disease, which attacks them when young, checks their growth, takes away their appetite, and at last causes them to die in violent convulsions. If it is not arrested in time, it may soon spread throughout the whole of the stud. It is usually attributed to damp and to superabundant moisture in various forms, which seem to be the mortal enemies of the rabbit. As *pot-belly*, or dropsy, is caused by a too succulent vegetable diet, so "rot" is brought on by eating putrid greens, or even those that are in the "heated" state of incipient fermentation. It is be-

lieved that the repeated indulgence in this kind of unnatural and unwholesome food produces the purulent pustules with which the unfortunate animal's liver is sometimes entirely covered, as well as engendering, we know not how, the parasitic creatures called flukes or hydatids that are found in the substance of the diseased liver. The remedies, with the addition of salt, are nearly the same both for "pot-belly" and "rot;" indeed, it is not very easy to distinguish them till after a somewhat advanced period. Flour of sulphur, sprinkled on the skin, has been recommended in case of mange or scab. The wisest way, however, is to prevent the further spreading of the contagious form of disease by sacrificing at once every animal that is attacked by it.

RED-WATER, THE SNUFFLES, AND DIARRHŒA.

Besides the former, there are a few maladies which only make their appearance in badly-attended and mismanaged studs, or during unusually fatal seasons; such as *red-water*, produced by inflammation of the kidneys and a highly febrile state of the animal. High-coloured urine is then voided, in its worst stage mingled with blood. Bad food, acrid and poisonous vegetables, or sudden chills, may either of them be the immediate cause of the complaint. The remedy will be, mild mucilaginous food, such as endive, dandelion, sowthistle, lettuce, with cooked potatoes and bran, besides a warm and cleanly lodging. *The snuffles* is occasioned by the catching a violent cold in the head, and may degenerate into bronchitis and inflammation of the lungs. Comfortable shelter, and protection from all draughts and wet, is the cure which common sense prescribes. *Diarrhœa*, or undue looseness of the bowels, is the result of eating too great a quantity of wet and acid rubbish. DRY FOOD must again be the prescription; add to it toasted bread-crusts and the skins of baked potatoes. To avoid the evil, it should be particularly borne in mind that all changes of diet with a confined animal, especialy from a drier to a moister—and in spring and autumn—should be *gradually*

made. No shock of any kind, not even in transitions of regimen, ought ever to be given to the system of so nervous a creature as the rabbit is.

RARE CASES.

Human pathology and surgery has its chapter exclusively devoted to *rare cases;* the same thing occurs with fowls and with rabbits. One of these is furnished by a correspondent of the *Cottage Gardener* :—"On examining a rabbit of the lop-eared breed to-day, I found one ear completely filled with a hard matter resembling scurf. On touching the ear, the rabbit screamed out. I then took as much of the hard stuff off as I could, and bathed with warm water; after that I greased the ear well. I took two pieces as large as a man's finger from the ear, which seemed to reach quite to the farthest extremity." Many others no doubt might be added; but they are more valuable as curious facts, than as being of any great practical utility.

HANDLING.

Rabbits are sometimes injured by being handled clumsily. The proper way to take hold of them is, to grasp the ears with the right hand, and to support the rump with the left. To seize them by the leg is apt to dislocate a limb, especially in the case of creatures that are shy; an injudicious gripe round the neck or the body may prove unexpectedly and suddenly fatal, by injury to the vertebræ, compression of the lungs, or breaking of the ribs; a hasty clutch at the tail may cause the fur of that ornamental member to come off in one piece, and spoil the animal's beauty for life. The instantaneous way in which an adroit hand will kill a rabbit, apparently by the merest touch, gives a forcible hint of the caution we should use in allowing a favourite animal to be captured and pulled about by inexperienced persons. For does with young, the greatest tenderness is indispensable.

FEEDING.

Rabbits should be fed twice a day—at morning and night. If they are on green food, it ought to be thoroughly dried before it is put into their racks or thrown upon the floor of their hutches. This diet would principally consist of the refuse of garden vegetables, taking care to give only a moderate quantity of cabbages, lettuces, and of all other cold and watery plants. WET HERBAGE,—we obstinately reiterate,—IS DEADLY POISON to rabbits. The leaves and roots of carrots, all sorts of leguminous plants, the leaves and branches (or the prunings) of all kinds of trees (which are too much neglected as rabbit-food), wild succory, parsley, pimpernel, &c., may be the diet of rabbits during summer. The great point, however, at all seasons, is to make the dry preponderate over the moist. We even believe that, under circumstances where the more costly kinds of dry food, as hay and corn, are not attainable, *sawdust* and withered leaves might be given to keep rabbits in health. Cobbett judiciously says, "*Abundant food* is the main thing; and what is there that a rabbit will *not eat?* I know of nothing *green* that they will not eat; and if hard pushed, they will eat bark, and even wood. A *variety* of food is a great thing; and, surely, the fields and gardens and hedges furnish this variety,—all sorts of grasses, strawberry-leaves, and ivy. They should have oats once a day. When the doe has young ones, feed her most abundantly with all sorts of greens and herbage, and with carrots and the other things mentioned before, besides giving her a few oats once a day. That is the way to have fine healthy young ones, which, if they come from the mother in good case, will very seldom die. But do not think that, because she is a small animal, a little feeding, or a little care, is sufficient. To those gentlemen who keep rabbits for the use of their family (and a very useful and convenient article they are), I would observe, that when they find their rabbits die, they may depend on it that ninety-nine times out of the hundred *starvation*

is the malady. And particularly short feeding of the doe while and before she has young ones; that is to say, short feeding of her *at all times;* for, if she be poor, the young ones will be good for nothing. She will *live,* being poor, but she will not, and cannot, breed up fine young ones."

Sowthistle and mallows are great favourites with many juvenile rabbit-feeders. One of Buffon's neighbours fed his rabbits (which he accustomed to assemble at the sound of a whistle) on wheat-bran, hay, and a great quantity of juniper branches, of which they ate all the berries, the leaves, and the bark, leaving nothing unconsumed but the thick wood. This diet gave them a game-like flavour; and their flesh was as good as that of wild rabbits.

For winter use it is as well to reserve hay, potatoes, Jerusalem artichokes, turnips (common and Swedish), field beetroot, the haum of peas and beans, &c. The use of salt is equally advantageous to them as to other domestic animals; it increases their appetite, and seems to have a decided tendency to keep them in health. Bran, grain of all kinds, and particularly oats, when they are to be had at a reasonable price, ought also to form a portion of their diet. They eat them greedily, and nothing is better for them, especially for does which are suckling their young. It is a good plan too, as Cobbett recommends, to vary the diet of rabbits frequently when they are kept in a captive state.

MODES OF RABBIT-KEEPING.

WARRENS.

An account of rabbit-keeping would be incomplete without a few words on the subject of warrens; more, however, to avoid treating the subject defectively, than with the hope of imparting much useful knowledge to our readers. Warrens, at the present day, very much depend upon local rights and the local qualities of soil. Where there is not a natural warren, it is very difficult to

make one artificially. There are two kinds of wild rabbits in England with which warrens are stocked—the *silver sprigs*, and the "wild coloured" or *greys*. The latter are much the more common of the two; the former are more valuable for their fur, and also, it has appeared to us, come to a larger size; at the same time, they are less hardy in constitution. But those who have them are so tenacious about keeping the breed to themselves, that it is extremely difficult to procure living individuals of the kind. The grey rabbit is also so much bolder an animal, that if a depopulated warren be stocked with both, in a few years there will be none but greys surviving. The author of "British Husbandry" correctly observes, that though warrens are found to return a large percentage on the capital employed, the animals are so destructive of fences and growing crops, that the land on which they are maintained appears in a state of desolation; and they are notoriously such bad neighbours, that, however profitable they may be, they are considered as a public nuisance, and efforts are constantly made to annihilate them. Many warrens have therefore been abandoned. Considerable expense too is incurred for warreners, for nets and traps, for the repair of fences, and for the destruction of different kinds of vermin, as well as for protection from poachers, who, if not watched, would soon depopulate the place. Whoever becomes the proprietor of a warren must keep one or more warreners. These men make a regular profession of their business, which renders information here less necessary; they moreover are a peculiar set, and are not a little jealous of revealing the secrets relating to their modes of trapping and snaring. Rabbits are much shyer of traps than hares, which latter go blundering on to their death. The best plan to get rabbits destroyed, is to employ different and rival warreners at once.

The "Survey of Lincolnshire" states that in the warrens there, one buck serves a hundred does, which go to buck the day they bring forth their young. The common winter stock is three couple per acre, and the produce

five or six couple killed. New land is more productive than old warrens; and on 250 acres of worn-out sainfoin, turned into a warren, two thousand couple were for many years killed, leaving about seven hundred couple on the ground; and it was reckoned that they would annually clear 100*l*., besides paying the rent. It is not, however, all profit. During the dull time of the year, warren rabbits must be fed. Turnips, clover, and sainfoin hay, are the most proper kinds of food in winter, and oat or barley straw is sometimes given in severe seasons, provided the snow be not deep enough to cover the corn. In severe storms turnips are preferable, as the animals can find them by the scent, and will scratch the snow off when covered; and it will require two large cart-fulls, or else a load of hay a day, to fodder such a breeding-stock as that above mentioned.

In Glamorganshire there is an inclosed warren of 1,600 or 1,700 acres within a wall. It is stocked with various kinds of rabbits, and produces a very good income, probably as much as 1,600*l*. a year. One foreign customer has paid as much as 800*l*. per annum for skins of one particular variety, for the German fairs, whence they travel into Russia and the East.

In another county with which we are acquainted, on a farm of two thousand six hundred acres, a portion only of which was warren, the skins and flesh of the rabbits paid the rent, beside the expense of the warreners. Of those officials there were seven, with dogs and implements in abundance. Besides wages, they were allowed all the rabbits they could eat, and bread, bacon, vegetables, beer, &c., from the farm-house, to be consumed in their huts on the warren, where they cooked, in hermit-like solitude, for themselves. During the killing season they worked in the night, finishing off at about two in the morning. This took place every night, Sundays excepted. The catch was immediately "hulked," or disemboweled, coupled, and then sent off to London in regular vans. During the day false burrows were dug in the portion of the warren to be worked in the evening

which was afterwards partially encircled with a net. When the rabbits came out to feed, they were driven by dogs and beaters into the inclosure. Taking refuge by droves in the false burrows, they were easily caught by the men; those that escaped thence were intercepted by the nets. One bright moonlight night, when we witnessed the chase, two hundred couple were taken. The dogs not being allowed to touch them, very few rabbits indeed were mangled or torn. Stretching their necks was the mode of death. In some existing warrens, rabbit-traps, like large rat-traps are made use of, and were occasionally employed here. Five hundred acres of the warren were subsequently broken up and cultivated, which materially diminished the value of the farm.

A large warren near Thetford, in Norfolk, was long held by a gentleman, who made a fortune by it. The rabbits consumed the greater part of the produce of a farm attached to the warren, on which there were a mixture of different coloured rabbits.

Several French writers, copying the idea from Olivier de Serres, describe a sort of inclosed or artificial warren, which is a pattern of luxury, convenience, *and expense;* but we will still give a few particulars for the guidance of any rich amateur who may choose to indulge in the costly whim.

The warren is to be established on a rising ground that slopes to the east or to the south, on a light soil, a mixture of clay and sand, and to be planted with shrubs and trees of such species as will afford them shelter, and resist their teeth. Certain evergreens, as gorse, will answer the purpose. Other quick-growing trees must be added, in order that their loppings may be used as food upon the spot; such as fruit trees, oaks, elms, junipers, &c. The trees must be protected when young, to preserve them from injury by the rabbits. All sorts of odoriferous plants, such as thyme, marjoram, and lavender, ought to be grown abundantly within the warren; lastly, grasses, leguminous plants, and roots, must be introduced, when the extent of ground does not

supply a sufficiency of food. That extent, according to Olivier, ought to be seven or eight acres at least; and he asserts that an inclosed warren of that size will produce two hundred dozen rabbits a year, *if* properly managed. He would have the warren close to the house, that it may be more frequently visited and better watched; surrounded by walls of stone or brick, eight or nine feet high, and with foundations sufficiently deep in the ground to prevent the rabbits from burrowing beneath them. The walls must be covered with a coping at the top, and with sloping eaves to prevent foxes from jumping over. All the requisite holes in the wall, for the passage of water, must also be protected by a close iron grating. Olivier considers ditches full of water, as an excellent inclosure, when the locality permits; he recommends the formation of a circumscribing canal, which may be stocked with fish. These ditches ought to be at least six or seven yards broad, and six or seven feet deep, or more. The outer bank should rise abruptly and steeply to a yard in height, all landslips and gaps being prevented by a facing of brickwork, or by a bed of thickly-planted osiers. The inner bank should slope gently down to the water's edge, that any discontented vagabond rabbit which may have attempted to swim across the ditch, and escape, finding a difficulty in climbing the opposite shore, and so compelled to return home again, may land in safety.

The operation of digging water-ditches round the warren affords the additional advantage of making in the inside, with the earth thrown out, a variety of pleasant hillocks and mounds, which will be convenient for the rabbits to burrow in, and also to allow the animals to drink, whenever—it is quaintly added—they stand in need of it.

Warrens like these, if actually completed, would prove perfect rabbit paradises, except that the one surrounded by water would be exposed to the attacks of the stoat, who is both an excellent swimmer and a thirsty hunter after rabbit's blood. The scheme was probably imagined

more to amuse the writer and the reader, than with any serious intention of carrying it into effect. We therefore pass on to more available modes of rabbit-keeping, which we will class under the three forms of *Rabbit-courts*, *Rabbit-pits*, and *Rabbit-hutches*.

RABBIT-COURTS.

Perhaps the most pleasing, and, for the animals, the most healthy place to keep rabbits in, is a paved yard. If well situated, it becomes, in fact, a practical realization, on a small scale, of De Serres's grand idea. Two sides of the courtyard may be bounded by tall buildings, as houses or stabling; if they stand to the north and east, so much the better. The other two sides should consist of a wall not more than five feet high, to admit air and sunshine. For security from intrusion from without, and to confine any fowls that may be kept within, palings may be fixed to the top of these low walls, without any inconvenience arising. The great object is to have the court at once airy, sunshiny, sheltered, and secure. In one or two corners of the court, or against one or two of its sides, there should be thrown a broad heap of earth and rubbish, eighteen inches lower than the top of the wall. In this, the rabbits will burrow and amuse themselves,—though it is better to prevent the does from nesting there, for fear of the attacks of cats and rats. The buck, if one is kept, must be retained a close prisoner in a box of his own. The breeding does, when their time of kindling approaches, will be comfortably settled in separate hutches, to be described hereafter. The day when each doe is to bring forth will be known from the stud-book, even if it is not indicated by the preparations she makes,—such as carrying about straws and haums in her mouth, and biting them into separate lengths. The rest of the stock will associate indiscriminately together in the court, with the sole exception that all males will be withdrawn, cut, or sent to the kitchen, as soon as they reach an age to prove trouble-

some ; and that young ones just weaned, *i.e.*, from six to eight weeks old, will be kept in a hutch by themselves till they are strong enough to join the general herd. For the rabbits which remain at large in the court, a few small brick houses at the foot of the wall, with their doors constantly open, and the burrows they will make in the earth, will prove a sufficient shelter at night and during bad weather. They will also make a similar use of any logs of wood, hen-coops, or faggots, that may be lying or standing about the place at random.

The easy management of such a rabbit court as this, is obvious. Food, either green or dry, has only to be scattered on the pavement of the court. The small proportion of individuals in confinement, will, of course, require extra attention, which will demand no great time to fulfil properly. All that is necessary, is to do it regularly and unfailingly. Rabbits so kept are much more amusing objects than when they are constantly hidden from sight in their hutches. Their gambols are seen,—their little antics with one another,—their cleanly habits in brushing their fur coats,—and even the petty quarrels and jealousies which arise from the elder ones striving for the mastery. They will become so tame as to eat out of the hand, and to flock around their feeder when he enters with a bundle of vegetables or straw. The whole stud should be so liberally supplied with provender, that those intended to be eaten may be able to fatten upon it; the growing and the breeding rabbits will amply repay the share they consume of this liberal diet, by the rapidity with which they come to hand, and the strength and thriftiness of the litters they bring forth. A rabbit-court like this is particularly convenient for consuming the refuse and sweepings of a large kitchen and flower-garden, and even a portion of the outscourings of a stable. Forkfuls of litter which a neat groom will cast out of doors, will be nibbled over and relished by his minor charges. In short, we strongly recommend a rabbit-court to those whose premises and situation allow of such a plan being adopted.

RABBIT-PITS.

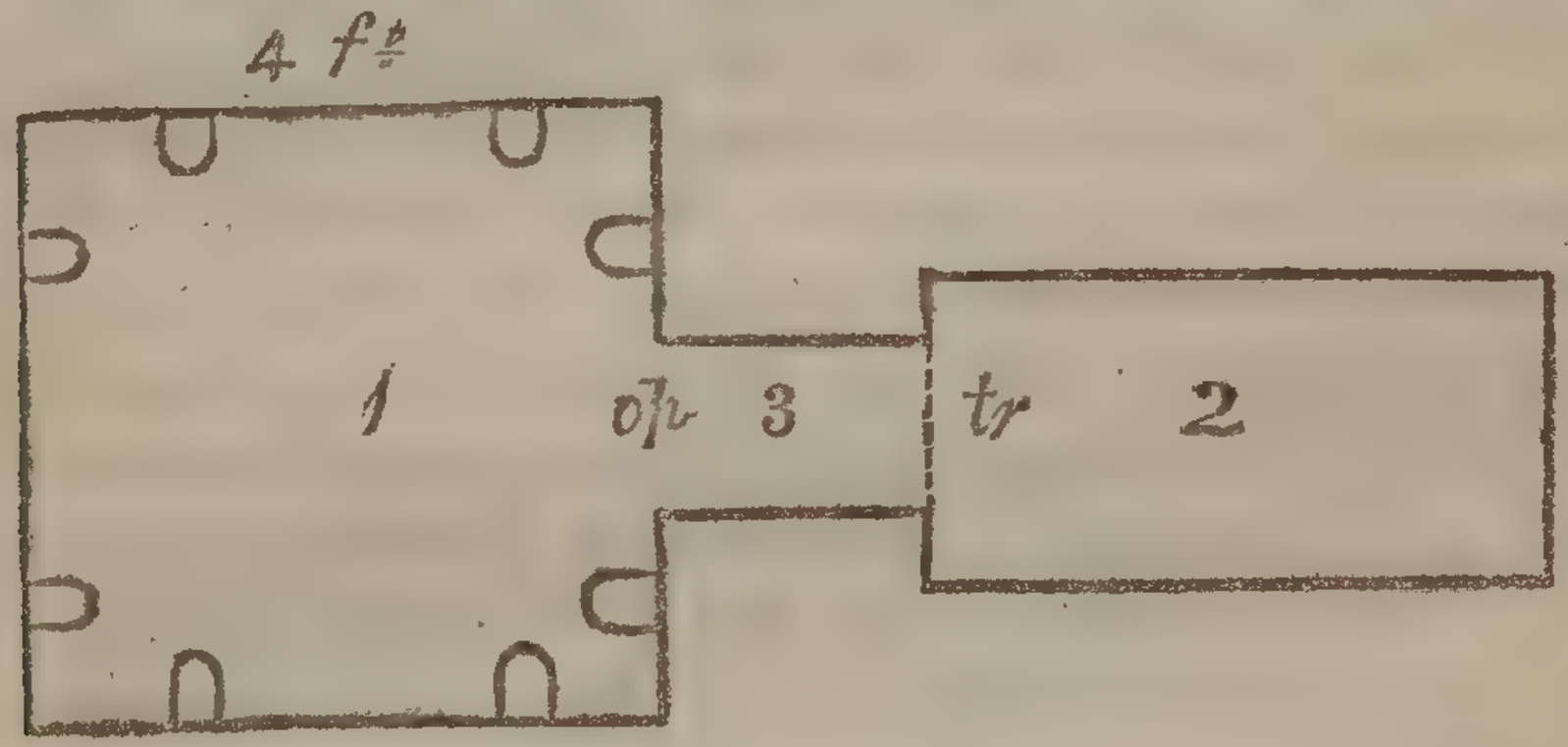
Another form of dwelling, imitating in some degree the natural habitation of the animal, though less so than the court, is the rabbit-pit. One of this kind is described in "Farming for Ladies," and we give a woodcut from the sketch in that work. It was the contrivance

Rabbit-Pit.

of a Kentish gentleman, who had arranged, in a paddock adjoining his house, a small rabbitry and pigeon-house, solely for his family use and amusement, and inclosed it with post and chain, to prevent the access of his

horses to the place. The inclosure was only about twelve feet in diameter, covering a pit of six feet in depth, in which the rabbits were confined, and through the sandy sides of which they burrowed to the extent of from ten to fourteen feet to make their nests. The proprietor, however, it was said, intended to fill up three feet of the depth, as he thought that the rabbits should be brought nearer to the air. The mode of catching the rabbits in the pit was with a long stick, forked at the end, which was hooked upon their neck when they came out to feed; or they were snared with a bit of wire fastened to the end of a stick.

We quote another rabbit-pit from the *Agricultural Gazette.* "In the Isle of Thanet, on the east coast of Kent, the writer witnessed and superintended, on his own property, the method which he now proceeds cursorily to describe, and the annexed diagram will



Plan of Rabbit-Pit.

tend to define the limits of the spaces required. No. 1 represents a pit four feet on each side of the square. 2 is an oblong, four feet long, and about two feet broad. Both are dug to the depth of six feet, perfectly level at the bottom and sides, the latter so much wider than the wooden curbs, as to admit of a facing of four-inch brickwork, in cement, excepting the spaces to admit of about six arched openings (as marked) of dimensions sufficient for the passage of the largest rabbit. 2 is the feeding department. 3 is only an arched passage, tunnelled at the ground level of the bottom of the two

pits, about a foot wide and broad, to serve as a communication between the pits. This is also bricked and arched, but is not seen at the top. A covering of oilcloth is added to the curb of each pit, and the cloth extends over the frame several inches beyond the curb, in order to prevent the entry of the heaviest rain. At the place *op.*, the arched passage is always open; and so it is also at the other extremity marked *tr.*, excepting only when any of the rabbits are to be taken. Dryness is essential to the prosperity of this animal, therefore the soil should not only be naturally dry, but must be protected above, and kept secure at the sides and bottoms of the pit by the best brickwork. From what has been stated, it will be understood that a sound chalky or sandstone rock forms by far the most appropriate medium for the warren, which the rabbits burrow into, and excavate according to their own requirements. Four does and a buck may be reckoned a good breeding stock; and something of the kind was found when the writer purchased the property in the Isle of Thanet. The experience of about two and a half years proved the correctness of the facts thus stated; and little more remains to be said on the availability of a practice which, while it secures the rabbits, preserves something of their wild nature. The variety generally introduced by the Thanet people was the one called brown: the hardy silver-haired would be desirable, if it could be procured. Sometimes a black rabbit was produced among the young ones of a litter. In feeding twice a day, the cabbage-leaves and carrot-tops of the garden were thrown into the feeding-pit, always free from wet, but not particularly air-dried or contracted by exposure. Some coarse pollard and a few oats, mixed, were let down in a trough attached to a long handle. The opening *tr.* was fitted with a trap-door, working freely in grooves, and furnished with a string and loop to keep it up. To this a much longer string was tied, and made to act perpendicularly, when any were to be taken, previously to which a meal or two was omitted. The simple machinery being then adapted, hunger induced a rush to seize the green

food thrown down; and after waiting a few minutes, it rarely happened that a sufficient number was not secured by the fall of the trap to admit of a proper selection for table use. Some cautions suggest themselves. No useless trappings must be indulged in; the man who holds the long string must not be seen. The passage should always be open at other times, and the covering screen kept on constantly, unless some operation be going on."

The general idea of a rabbit-pit being thus suggested, it will be easy for any amateur to modify it at his pleasure. Of the two specimens given, we would only observe that they both appear too small in their dimensions. A pit, also, is not a nice thing to have on one's premises; for, however well it may be inclosed, accidents to children and valuable animals are always to be apprehended. We doubt whether animals kept constantly below the surface of the ground would be maintained in such good health as those above it, remembering that "the stony hills are a refuge for the coney," and also that wild rabbits delight to burrow in sandy dunes, and to bask and graze on their sunshiny slopes; and, in the first case, experience seems to have proved that the animal's dwelling-place was considerably too deep. Undoubtedly, the most perfect arrangement would be, a combination of the rabbit-court with the rabbit-pit. Various localities suggest themselves where such a plan would be possible,—namely, the neighbourhood of worn-out gravel-pits or quarries, unused saw-pits, and inland cliffs.

RABBIT-HUTCHES.

We now come to what appears the simplest of all matters, and which yet, if it be not well contrived, will have a most influential effect in causing failure. From a tea-chest to a worn-out portmanteau or a leaky tub, anything has been thought good enough to keep a rabbit in. "Everybody," says Cobbett, "knows how to knock up a rabbit-hutch." If the rabbits themselves could only speak, they would tell us that many a body sets about it in a bungling manner, and proves himself profoundly

ignorant of the fundamental principles of rabbit architecture.

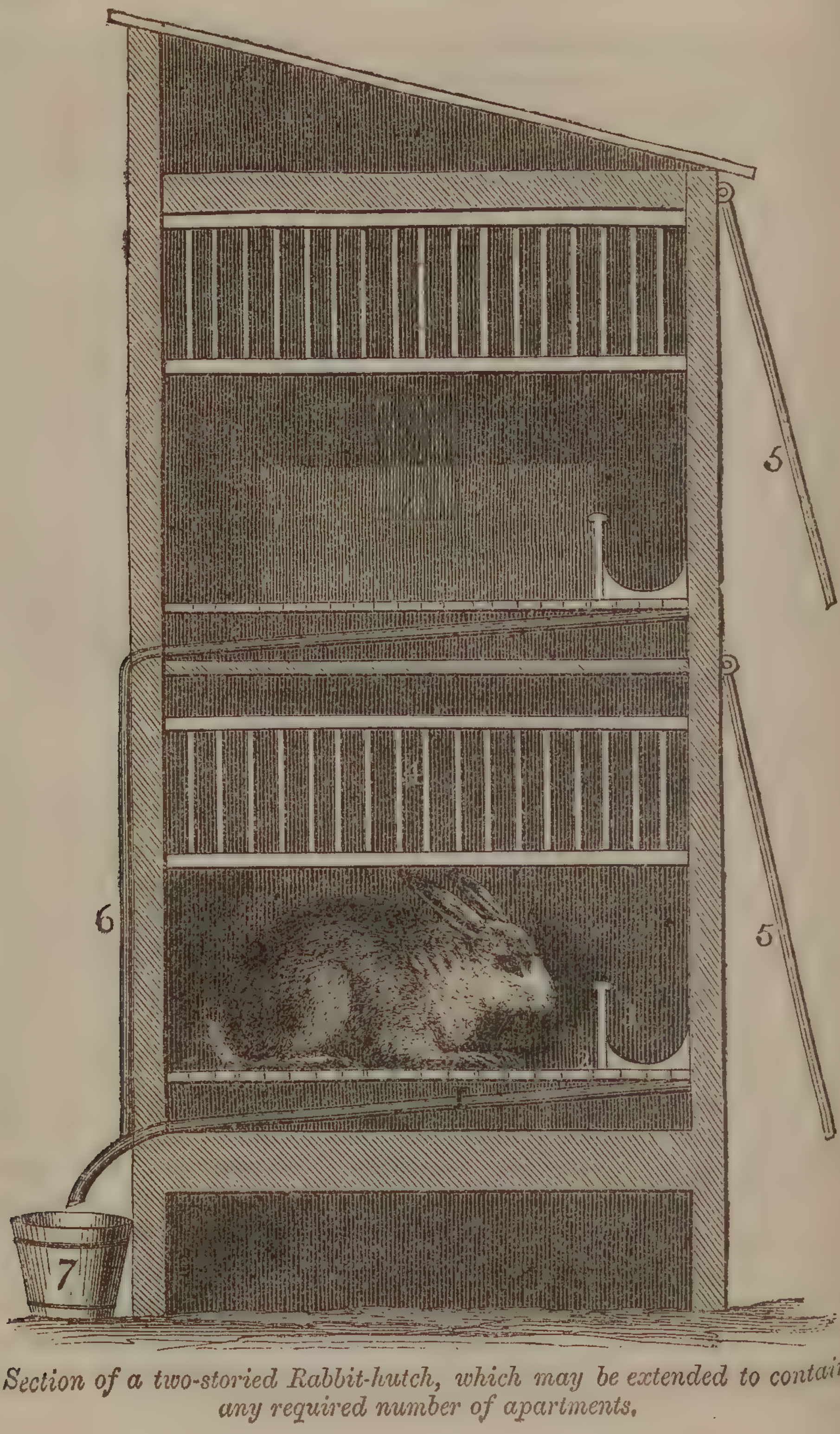
To learn these, we must go to the warren. There we find that the rabbit makes its dwellings in a sandy soil, and therefore well drained; in hillocks and mounds, in preference to hollow bottoms, and therefore dry. The burrows frequently communicate with each other, and therefore allow a certain amount of ventilation, the wind blowing into the mouth of the hole being often sufficient to insure that. The thick stratum of light earth which covers the habitations of a colony of rabbits causes coolness in summer and warmth in winter. In the depth of a burrow it never freezes, and is never oppressively hot. In short, with the exception of the absence of light, which is of little importance in a *sleeping-place*, a rabbits' burrow, magnified to corresponding proportions, would make, at a pinch, a very bearable dwelling for human beings devoid of other shelter; the nest which a doe prepares for her young is soft and warm enough for a baby to lie in, if sufficiently enlarged. And, in truth, many thousands of our fellow-creatures spend their lives, are born, and die, in cellars which are less wholesome than a rabbits' burrow on this large imaginary scale would be.

Whatever form of hutch, therefore, be adopted, it should be well sheltered; if possible, it should stand within another airy building, or at least under cover. Its temperature should never descend to the freezing point, nor mount beyond summer heat—scarcely so high, if it can be avoided. On this account, rabbit-hutches, or cabins of brickwork, built in a court, offer many advantages; if made of wood, the material should be solid. Were we now to recommence rabbit-keeping, we would contrive a hutch whose top and sides should be thatched with straw and reeds, to avoid all sudden chills as well as bakings and broilings from the noontide sun. In sultry weather, rabbits are as much oppressed by overpowering heat as a flock of unshorn sheep would be, and rush just as anxiously into a patch of cool shade. Of course, all sorts of drippings from eaves, draughts of air, and inun-

dations from bad drainage, should be placed out of the possibility of annoying the rabbits. Many stocks, unfortunately, are constantly exposed to all these evils. Their owners then complain that they do not succeed, and lay all the fault of the failure on the poor, good-for-nothing, troublesome, and tender creatures.

For similar reasons, hutches should never stand on the level of the ground; they should be raised at least a few inches (though a foot or two is better), either on legs or benches. The wood of which they are constructed ought to be thick, more for the sake of warmth than for strengh; for if the rabbits do happen to gnaw them, ten to one it is done more for want of dry food and an irresistible craving after it, than for mischief's sake. The dimensions will vary according to circumstances, and every amateur will suit his own convenience; but no hutch, to contain a single full-grown rabbit, ought to be less than a good yard square in area. The depth is of less consequence.

We give a woodcut of a form of hutch which has many advantages, and which is useful where a large stock is kept, because it is capable of being repeated to any extent in length, like a row of houses, and also, as the figure shows (*page* 126), may be constructed with a couple of stories, or more. The first, or false bottom (2), is a framework of strong splines, with a sufficient interval between them to allow the urine and small fragments of offal to pass through. About an inch beneath this first bottom is a second (1), of wood covered with zinc. It is fixed with a gentle slope from back to front, to aid the escape of the urine to the gutter, which will be conveyed to a pail (7), by means of a tube (6) which communicates with the inclined bottom of each hutch. This bottom ought to be moveable, slipping in a groove, in order that it may be more easily cleaned. To avoid all likelihood of infection, the bucket which receives the urine should be carefully emptied twice a day, and well rinsed out; for the urine of the rabbit is *the sole cause* of any offensive smell which may emanate from a hutch. The door of the hutch (5) is a frame of wirework, suspended at the top



Section of a two-storied Rabbit-hutch, which may be extended to contain any required number of apartments.

by a couple of hinges, and opening at the bottom. It is kept shut by a hook or a button. Doors like these are easy to open, and allow a convenient means of changing the litter, which requires to be removed from time to time. If preferred, however, the door may go to slip in a groove, or to open at the side; but the former plan is altogether the best. Each hutch should be furnished with a little rack, fixed against one of the sides, to prevent the rabbits from wasting their food; for, like other of our domestic animals, they will reject the provender which they have once trodden and blown upon. In courts, a little rack, on the model of a sheep-rack, is not only a pretty toy, but a useful article of furniture. At the back, a little trough or manger should be fixed, to hold the bran and corn which is desirable for all, but more especially for nursing-does. The troughs for hutches in which weanling rabbits are kept should be very narrow, to prevent the little ones from getting into them.

Besides the hutches destined for does, there should be one of larger dimensions for the buck, not only to accommodate his robuster proportions, but to allow a doe to spend the night with him conveniently. And as he is the father or king of the herd, his hutch may be called "the royal hutch," wherein, himself a sort of prisoner of state, he lives in solitary dignity, surrounded by his captive females.

When rabbits are kept on a large scale, the hutches are assembled in one inclosure or building, which should be covered with a roof and surrounded with walls, to secure it from the weather, and the depredations of cats, rats, and other vermin. It is desirable that the inclosure be

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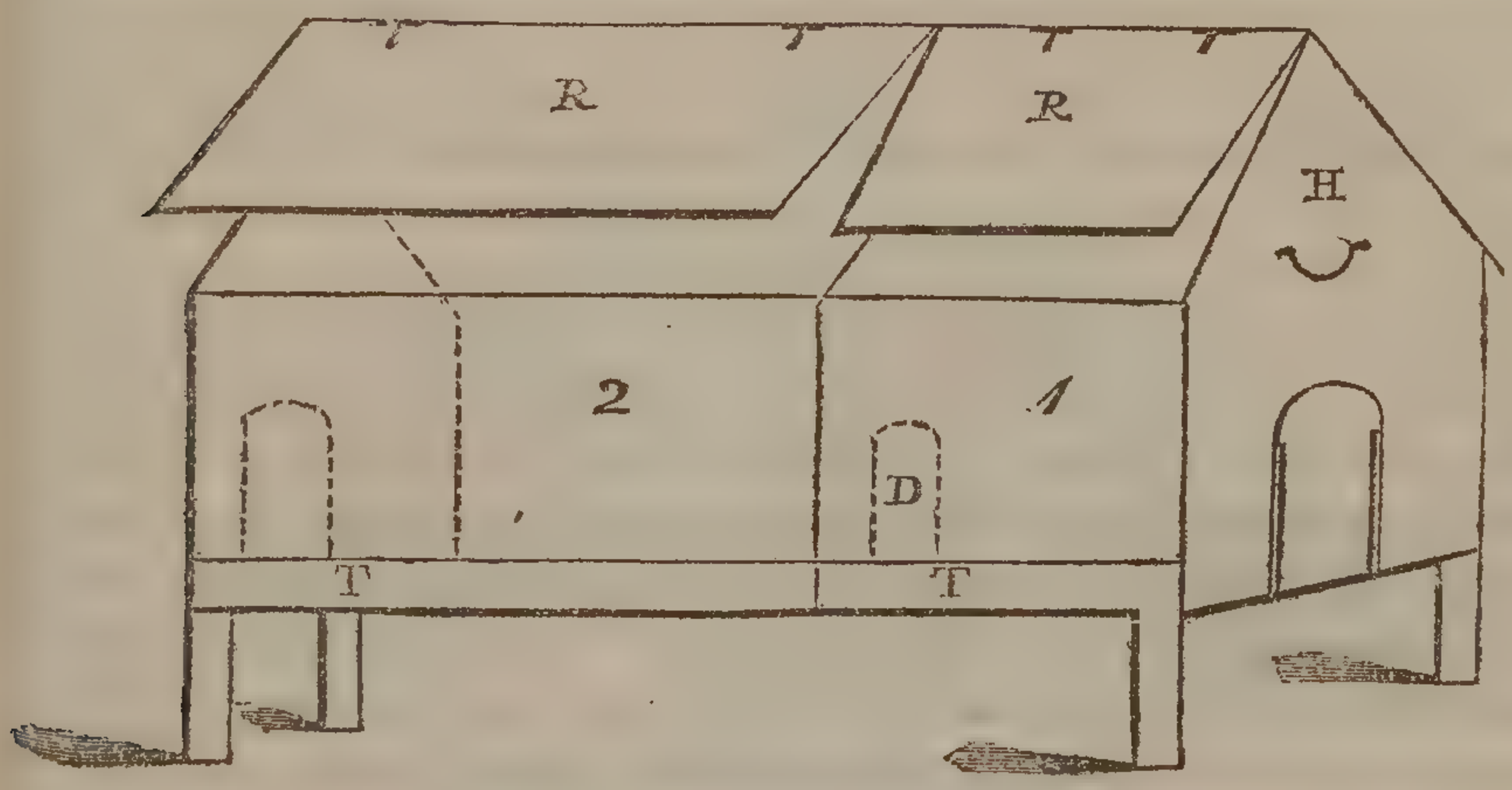
* 1. Sloping bottom, lined with zinc.
2. Floor of strong splines, with a small interval between them.
3. Trough to hold bran and corn.
4. Rack fixed against one of the sides.
5. Barred door, working on hinges at the top.
6. Tube to carry off the urine.
7. Small tub to receive the urine.

paved with square tiles, which should have their joints well closed with cement, in order to prevent all leakage of urine or slops beneath the pavement. This accident is one of the causes most likely to engender disease amongst the stock. The reason is plain: the earth on which the pavements repose becomes sodden with liquid filth, an unpleasant smell is constantly exhaled, and whatever cleanliness may be observed above ground, beneath is a fertile source of epidemic maladies, which will go on increasing from month to month, and will sooner or later cause serious injury. In this inclosure rows of hutches are ranged, one or more stories high. The first row will touch the wall; a passage will be left between that and the next row, and so on, till the enclosure is full, when you have a series of parallel passages and rows of hutches, allowing free ventilation and easy access of the persons who tend them.

In such an establishment, a constant renewal of air is a matter of the first necessity, which may be insured by fixing in the wall small grated windows opposite each other. If unpleasant smells are perceived, on entering in the morning, it is a hint to the rabbit-keeper to look to his litter and his ventilation. Hutches that are too small, and too closely crowded together—that are cold and damp, or dirty and fetid,—are sufficient in themselves to bring on all the diseases to which rabbits are liable. Their result is loss of health, ophthalmia, want of appetite, diarrhœa, pot-belly, rot, mange, and death. In the first stage of these disorders, something may be done by vigorous sanitary measures of cleanliness and ventilation, with judicious feeding and disinfection by means of chloride of lime. Rabbits are naturally of a robust constitution, and are but slightly liable to be attacked by small ailments; but when they *do* ail anything, we may be sure that the evil is of serious consequence.

We next give the figure of an independent hutch with two apartments, which we have found very useful to contain a doe and her weanling young, before they were old and strong enough to join the other fatting rabbits in the

court. It is also useful for the young beginner who is making his first trial with two or three half-grown individuals of the sort which he fancies. It is easily moved



Two-Roomed Hutch.

under shelter or into the open air, easily tended and cleaned out, and not costly to make. Nos. 1 and 2 are the divisions, the second twice as large as the first, communicating with a sliding-door D, which can be opened or shut at pleasure. At each end is also a door. The roof R R, in separate pieces, is on one side a wooden lid, moving on hinges at the top, and available either to put in food or hay, or to catch the animals within. T T are small troughs in front, for the reception of corn, pollard, or peas. A little rack may be added at the back part; and an iron handle at each end, as at H, will enable a couple of persons to lift it from place to place with ease. It stands upon legs, to raise it from the damp ground, and to keep mice from getting in and stealing the corn. The floor is pierced with holes to let the urine escape; other ordure can be removed through the gap at the bottom, into which the troughs are inserted, and which may also be contrived to admit a false bottom, like that of a birdcage, but perforated, which every morning may be cleaned and scraped, besides being sprinkled with sand or straw. The dimensions of this hutch will greatly

depend upon the room which the amateur has at command; but he will bear in mind, that the less cramped his pets are in their lodging, the better they will thrive.

HOW TO COMMENCE RABBIT-KEEPING.

SELECTION OF STOCK.

To *begin* rabbit-keeping, there are two modes of obtaining stock, which the amateur has the choice of adopting. The first plan is to purchase full-grown animals, a buck and as many does as may be required, and to let them breed at once. Some persons are so little disposed to wait for the produce, that they will buy a doe or two far advanced with young, in order to see her progeny arrive as early as possible into the world. The second mode is to obtain one or two litters of young rabbits, after they are fairly weaned, at about nine or ten weeks' old, and to tend them, and keep them, and feed them up, till they are arrived at an age capable of being productive. Having ourselves repeatedly tried these two modes at different times of our life, we unhesitatingly recommend the second for preference, for the following reasons:—

In the first place, whoever sets about keeping any species of domestic bird or animal for the first time, will have a great many little details to learn, which will be most easily acquired by the observation of individuals sufficiently advanced in life to do without the care of their parents, and also so immature as not to require quite yet the fulfilment of the great law of nature,—"increase and multiply." There will be nothing beyond themselves to attend to. We need only hint at the many points of health, diet, habits, and peculiarities both of breeds, individuals, and sexes, with which the amateur will thus become practically acquainted, and which will render him more competent for the management of his pets when they come to have offspring in their turn. It is also a more economical plan, requiring less outlay, and less liable to loss. Quite young rabbits, of any ordinary

kinds, can be bought both on the continent and in England for a few pence. In case of failure, deaths are of less consequence; in the event of success, superabundant males and ugly and unpromising females will always be useful to make their appearance on the table. But to buy full-grown does that have already reared two or three litters, of handsome appearance, and probably the favourites of their owner, the purchaser must expect to open his purse-strings, especially if he applies to a respectable dealer; a disrespectable one might possibly sell him, at a low price, a doe which, though a good-looking animal, may have some unseen but serious defect, such as an invincible propensity to eat her young, or lurking symptoms of pot-belly and rot. Another point should not be forgotten: some does, which have proved excellent mothers with their old master, if changed to fresh quarters (particularly if they have to travel far) when near their time of kindling, and tended upon by unaccustomed hands and gazed at by strange faces, will *not* do well in their new abode. They are apt to make an imperfect nest, to neglect their young, and even to kill them; and this habit once begun is ever afterwards to be apprehended.

All these various mishaps, which have disgusted many a young beginner, are avoided by stocking the court or the hutches with young individuals, which can be selected from, thinned out, or exchanged, till the amateur has got a stud to his mind. All the males, be it observed, must be secluded as soon as they are four or five months old. Indeed, unless the breeder keeps a very large stock, or of particularly choice and rare kinds, or lives in an out-of-the-way part of the country, it will be found unnecessary to keep a buck at all. For a very trifling payment, which in most cases would amount to much less in the course of the year than the keep of a buck, the does may be sent when required to a neighbour's, and the trouble of maintaining a "royal hutch" will be spared.

But whether old does are to be bought in, or young ones reared till they are capable of becoming mothers, it should be carefully remembered that rabbits vary much

in disposition as well as in race; and it is very conducive to successful breeding to keep such only as are quiet and tractable. Some does absolutely like to be fondled, will allow themselves to be caught without attempting to escape, will squat on the ground when their owner approaches to stroke them, and will submit to be carried about in the arms as quietly as a doll; while others will run away, like wild things, in a court, and if disturbed in the privacy of their hutch, will squeak, grunt, scratch, and kick their litter about, to the destruction of their nest, if they happen to have one.

If, after the foregoing caution, it be still determined to begin with a stock of full-grown animals, the points to be insisted on are, in the doe, teats visibly in a healthy and natural state, plump and swelled with milk if the term of pregnancy is advanced or she has already littered; the head, with reference to the length of the muzzle and the breadth and development of the occiput, should form a sort of wedge; ears long, broad, and fine; chest expanded; legs strong and wide apart. As far as profit and fecundity are concerned, a doe ought to bring forth not less than eight at each birth on an average. If she constantly produces less, it will be advisable to change her, even although she may be young and in good health; for it is an acknowledged fact that all individuals are not equally suited for reproduction.

The buck is at his best from one to five years of age; the doe, from eight months to four years: of course, care will be taken to see that they are not pot-bellied. Hard and well-pelleted dung is a certain indication of good health. It would be very convenient if there were unfailing signs, as in oxen, sheep, and horses, by which the exact age of a rabbit, up to a given period, could be ascertained; but all that can be done is, to distinguish vaguely an old one from a young one. The least equivocal symptoms of old age are, the general solidity and thickness of the skeleton, especially at the joints, as far as they can be felt by handling; the development of the belly to a considerable amount of obesity; and finally, the length and thickness of the nails.

Breeding does, when kept in hutches, are much better each in a hutch to herself, than inhabiting one common dwelling, however roomy it may be. When a number of does live in the same hutch, the consequences are sometimes quite as unfortunate as if the buck were in company with them. If a doe kindles, and leaves her little ones a moment to feed, the other does immediately crowd round the nest through an instinct of curiosity, peep into it, and not seldom disturb it with their fore paws. The mother rushes up to drive the other does away; a battle ensues; and half the little rabbits are either killed or wounded for life. The pregnant does which take part in these skirmishes, generally suffer abortion in consequence of their excitement, and the blows which they give and receive in the combat. Their owner may read the Riot Act afterwards, but the mischief is done.

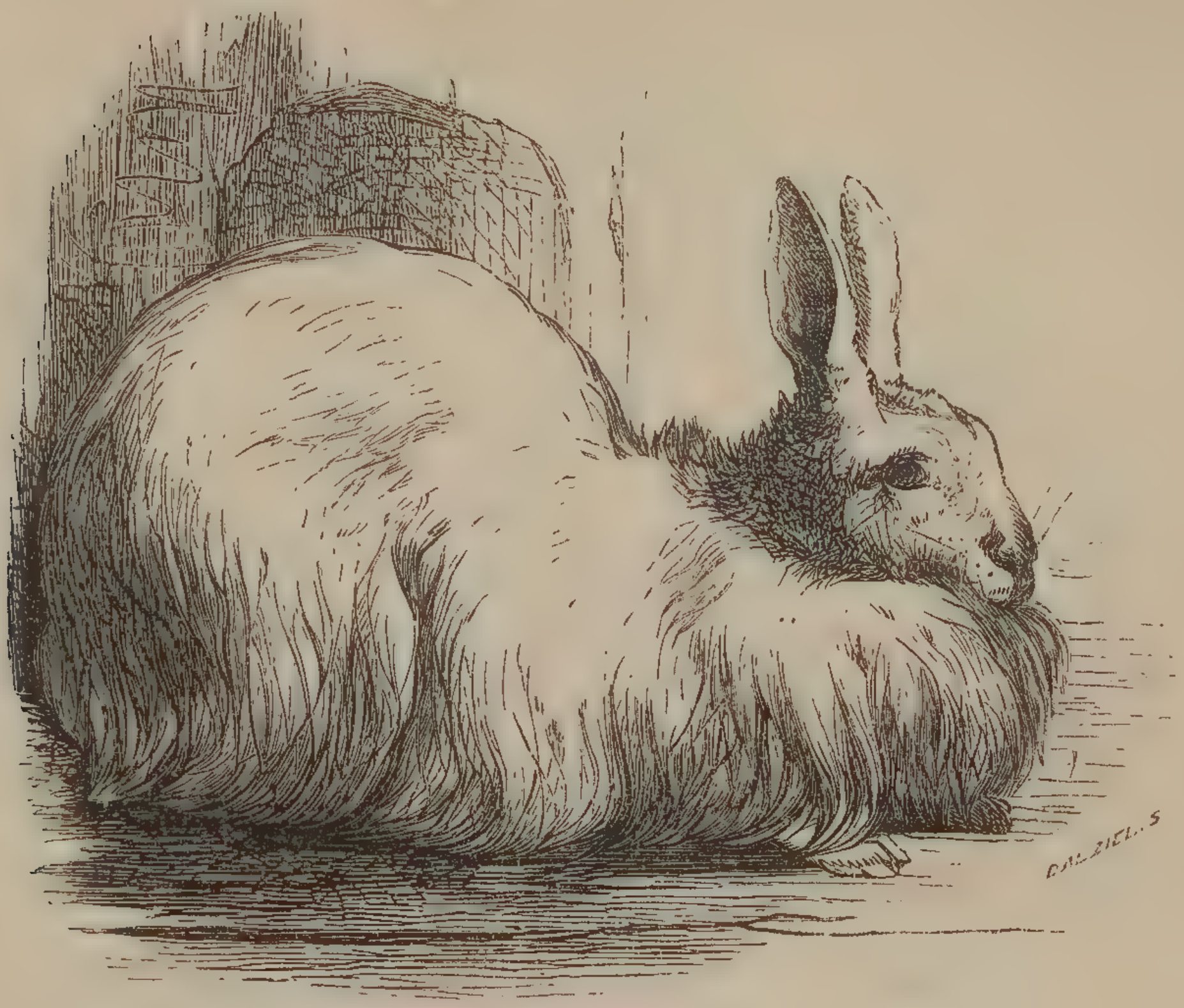
THE BREEDS OF RABBITS.

The wild or warren rabbits are only mentioned here to warn the reader against supposing that *their* young, if caught at an early age, will be of any use to bring up in a domestic state. Of all the troublesome tasks a rabbit-fancier can undertake, is the attempt to rear a nest of young rabbits which have been taken from the warren, the field, or the down. We speak on this matter from experience. The little things remain unconquerably wild; they will eat, it is true, and may be saved from dying of starvation; but they will be unceasing in their attempts to escape: they will crawl through the merest cranny; their inborn love of liberty will constantly keep them in a pining state; and they will but rarely come to any good. This is a great pity, as they really are pretty creatures; and in some districts it would be so easy to supply one's hutches with young, to be fatted and killed when occasion required, that it would be unnecessary to keep any breeding does. The task of converting wild British rabbits into tame ones, is found to be, at the present day, far from an easy undertaking. The difference of disposition is so immense and radical, that practical people are inclined to believe the two races to

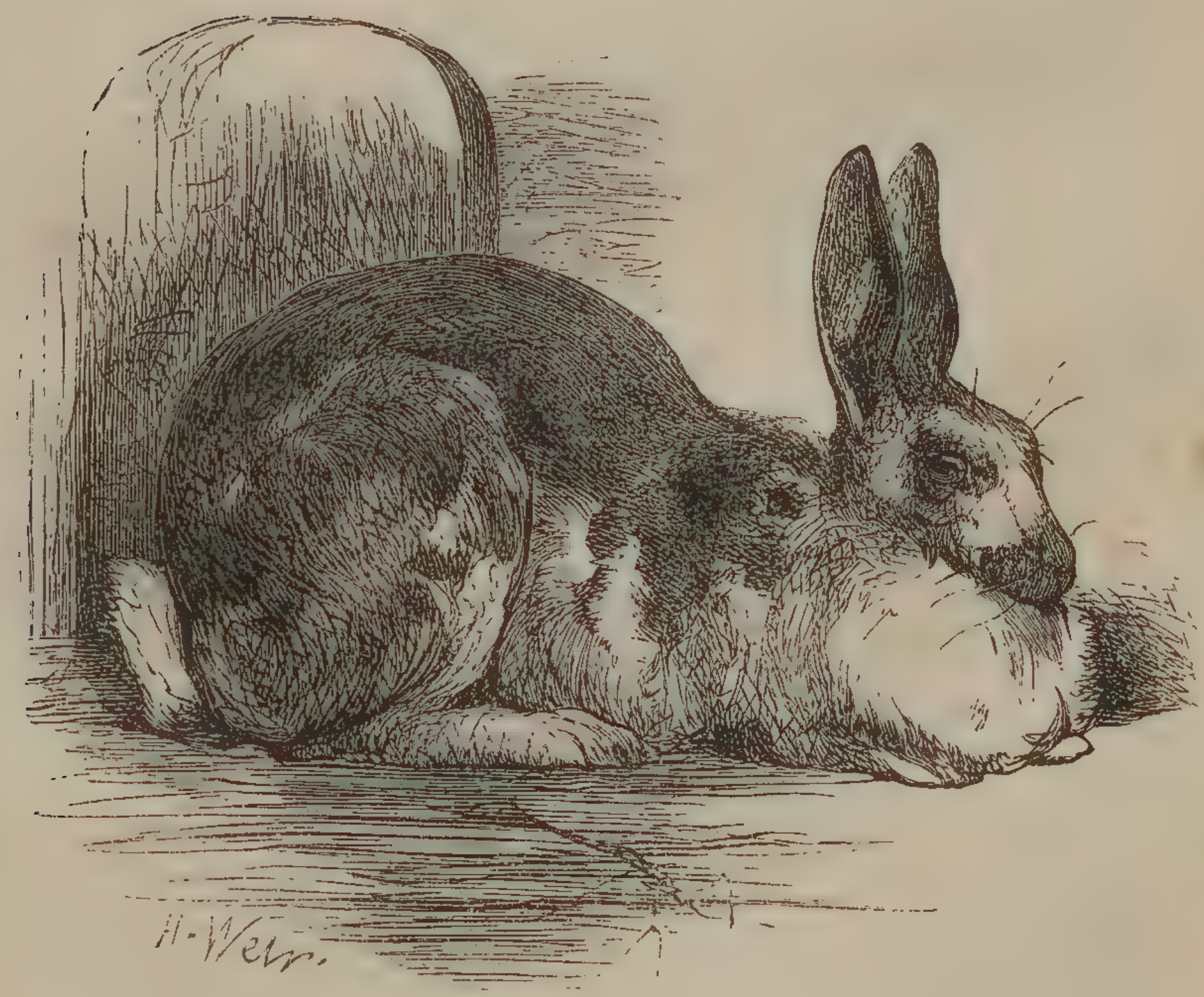
be derived from a distinct stock and origin. "Fancy rabbits," says Mr. Rogers, in his useful little treatise, "are not, as is generally supposed, the result of an improvement in the English breed of rabbits; but were originally brought from Tartary, Persia, and Asia Minor; and have been made the means of improving the domestic breeds in this country. They require more warmth than the common English domestic rabbits; and thrive best when kept in an atmosphere the warmth of which varies from temperate to summer heat. The common domestic rabbit will do in more exposed and colder situations; but the fancy rabbits degenerate, unless carefully attended and kept free from cold and wet."

Domestic rabbits may be divided into four general leading varieties; the *Small Common Tame Rabbits*, the *Large Tame Rabbits*, the *Lop-eared Sorts*, and the *Angoras*. Between each of these there are numerous half-breds. Angora rabbits are distinguished by having long silky hair; their colours are mostly either pure white, or a mixture of black and white, or grey and white. Their fur is valuable when the skins can be obtained in considerable quantity; but they are delicate in constitution, less prolific, and many prejudiced persons object to eat them because, they say, they resemble cats. Notwithstanding which, Angora rabbits are very pretty creatures, and well deserve the attention of those who think more about beauty and amusement than of profit.

The *Common Small Tame Rabbits* are the nearest in size and appearance to the warren sorts. There are black, white, parti-coloured, blue or slate-coloured, and brown or wild-coloured. They are hardy and prolific, suited for people living in a blustering climate with only a limited supply of provender at command; they suffer less from neglect than the others,—though the less of that misfortune they have to undergo, the better. They are cheaper to buy, and, in short, are just the stock for a boy to begin with, till his experience entitles him to aspire to keep the fancy kinds. On the table, their flavour is as good as any, though they make a less magnificent dish when served up whole.



Angola Rabbit, p. 134.



Dewlap, p. 137.

Perfect Lop, p. 135.

The *Large variety of Tame Rabbit* is coloured much the same as the former, except that it is more likely to produce *albinos*,—white individuals with no colouring pigment in their eyes, and thence called "red-eyed" rabbits, because the blood circulating in the fine transparent vessels gives them that tint. White Lop-eared rabbits in general have black eyelids and common eyes. With skilful management and liberal feeding, the large variety may be made to attain the weight of twenty pounds. That, or a trifle over, is the maximum. French Flanders has been long celebrated for, and still produces, admirable specimens of this variety. It can hardly be called a fancy rabbit, since it has not the lop ears which distinguish those breeds. It is merely an exaggeration or an enlargement of the smaller kind, though an accurate eye will observe that the proportions of its form are somewhat more elongated. Many dealers have favourite races of this variety, which they style by different names, and whose respective merits they loudly vaunt. Instead of wishing to underrate any of these rival breeds at the expense of the other, we would recommend each of them as the most useful and profitable of all tame rabbits, while their size and docility render them both ornamental and pleasing. The Lop-ears, it may be said, are often equally heavy and docile; but then, they are *Show Rabbits*, and few persons would think of putting on their table an animal which they may, perhaps, be able to sell for several guineas.

LOP-EARS.

The Lop-eared rabbits are the kinds which fanciers delight to revel in. The ears, instead of rising from the head with a tendency and inclination backwards, fall more or less to the side, as if they had been folded and pressed down artificially, forming more or less decidedly-pendant ears. Some few varieties of goats and sheep exhibit a similar malformation, for so it may be fairly called.

In rabbits, the first approximation to this peculiarity, is shown by the *Half-lop*, when one ear falls downwards

or frontwise, and the other remains in its natural position. This difference of the ears is very unsightly, and is a great blemish in a fancier's eye; because the ears of all fancy rabbits ought to be exactly alike, both in their shape and in the way they point or fall. Otherwise, it is as if a man had one short arm and one long one, or one half of his face with a different sort of countenance from the other half; and yet, a Half-lop doe, if her other qualities are good, is not to be hastily discarded; because she may, if judiciously coupled, produce a few approved specimens in almost every litter. For it is curious that with fancy rabbits, when both the parents are perfectly formed, have model ears, and are handsomely marked, their progeny do not invariably turn out the same; while from imperfect parents, if they have good blood in their veins, there is a considerable chance of rearing at least a small number of superior young. Rabbit-breeding in such a case acquires the same sort of interest as the florist enjoys, when he hopes to find in a bed of seedling dahlias or carnations a first-rate specimen or two that shall reward him for all his patience and expense. Still, the chances of success are greater when both the parents have the desired characteristics.

The *Oar-lop* is the next stage of deflection, when the ears extend horizontally outwards on each side, forming a line that is more or less straight, giving the idea of a pair of oars which a waterman is resting out of the water in his rowlocks, while having a gossip as he is sculling along. The term *Oar-lop* is sufficiently descriptive.

The *Horn-lop* rabbit has ears which descend obliquely from the sides of the head, somewhat like the "cow with the crumpled horn," in the immortal "House that Jack built."

Flat-lops are the most unnatural, and therefore the most perfect and valuable, rabbits in a fancier's estimation. The ears of the animal, instead of pointing upwards and backwards, take a sudden turn downwards and forwards, immediately from the crown of the head.

THE DEWLAP.

The dewlap is a point not to be neglected in the appearance of a fancy rabbit. It is sometimes compared to the dewlap of a bull, or to the pendant skin, hardly to be called a pouch, which hangs under the chin in certain species of geese; but is really more like the double chin one sometimes sees ornamenting the neck of a well-fed old gentleman, or a full-blown matron, whose circumstances are easy and whose labours are slight. It has the appearance of a *goître* without its unseemliness,—though goitred ladies are not without their admirers. The rabbit looks as if it had put on a fur-tippet of the same material as its own, by way of a comforter, serving also as a cushion for the chin to rest upon when "Bunny" is enjoying her afternoon's dose. A thick dewlap is considered a great beauty and recommendation, but is only slightly visible till the animal has arrived at its adult state.

MARKINGS: THE SMUT AND THE CHAIN.—CARRIAGE.

Other points in fancy rabbits are more conventional and variable, and depend more upon individual taste. Peculiarities which are the rage to-day, may be only coldly looked upon to-morrow. Amongst these are those varieties of the animal which are discriminated by the combination of colours respectively belonging to them. We quote a paragraph from Mr. Rogers:—

"The fur of fancy rabbits may be blue, or rather lead-colour and white; or black and white; or tawny and white, that is, tortoiseshell-coloured. But it is not of so much importance what colours the coat of a rabbit displays, as it is that those colours should be arranged in a particular manner, forming imaginary figures, or fancied resemblances of certain objects. Hence the peculiarities of their markings have been denoted by distinctive designations. What is termed the 'Blue Butterfly Smut,' was for some time considered the most valuable of fancy rab-

bits; it is thus named on account of having bluish or lead-coloured spots on either side of the nose, considered as having some resemblance to the spread wings of a butterfly, what may be termed the ground-work of the rabbit's face being white. A black and white rabbit may also have the face marked in a similar manner, constituting a 'Black Butterfly Smut.'

"But a good fancy rabbit must likewise have other marks, without which it cannot be considered as a perfect model of its kind. There should be a black or blue patch of fur on its back, called the saddle; the tail must be of the same colour with the back and snout; while the legs should be all white; and there ought to be dark stripes on both sides of the body in front, passing backwards to meet the saddle, and uniting on the top of the shoulders, at the part called the withers in a horse. These stripes form what is termed the 'chain,' having somewhat the appearance of a chain or collar hanging round the neck.

"Among thorough-bred fancy rabbits, perhaps not one in a hundred will have all these markings clearly and exactly displayed on its coat; but the more nearly the figures on the fur of a rabbit approach to the pattern described, the greater will be its value, so far at least as relates to colour. The beauty and consequent worth of a fancy rabbit, however, depends a good deal on its shape, or what is styled its 'carriage.' A rabbit is said to have a good carriage when its back is finely arched, rising full two inches above the top of its head, which must be held so low as for the muzzle and the points of the ears to reach almost close to the ground."

SALEABLE VALUE.

As to the value of fancy rabbits, choice specimens are worth,—whatever they will bring. They can no more be estimated by any rules of intrinsic value than can Cochin China fowls, race-horses, old pictures, or unique tulips. The author of "Farming for Ladies" inquired of a gentleman who exhibited some fine specimens of Lop-ears at the Metropolitan Fancy Rabbit Club, what might be their

value, and learned that he had, the day before, sold a very young pair to a friend, as a favour, for five pounds; but, on surprise being expressed, he introduced the gainer of the prize (a handsome silver goblet), who, it seems, purchased the rabbit some time before at the price of eighteen guineas. Mr. Rogers says: "The price of a fancy rabbit, like that of any other curiosity, must depend upon its displaying more or less of those qualities which have been considered as constituting the perfection of its kind. Considerable sums have no doubt been sometimes paid for particularly fine specimens of fancy rabbits. It is said that the sum of twenty guineas has been given for a first-rate doe, and we have heard still more exorbitant prices mentioned; but five pounds was the most we have ever actually seen paid for a fancy rabbit. Well-bred rabbits may frequently be purchased at reasonable rates when young; and if well tended and managed, they may afterwards prove very valuable." This is some contrast to the price of warren rabbits in Norfolk,—eightpence or ninepence each, and occasionally cheaper.

RABBIT SHOWS.

That the reader may have a general idea of the rules and regulations of a rabbit show, we give an abstract of those adopted by the Britannia Fancy Rabbit Club, held at the Britannia Inn, George-street, Maidstone, which have been kindly furnished to us, and which will serve as a tolerably clear guide to the subject.

Among the bye-laws are these: That each contending member be subject to the following fines:—Non-attendance on each meeting-night, by half-past seven o'clock in the winter, or half-past eight in the summer, first hour 3*d.*, second hour 6*d.* No rabbits to take a prize under seventeen inches in the ear. That the judges, committee, and sub-committee be at the club-house on the show-day at eleven o'clock, or be fined 6*d.*; if not there by half-

past eleven, to be fined 1*s*. That the prizes be awarded before dinner. That all members having rabbits to contend for prizes shall cause them to be at the club-house at eleven o'clock, or be fined 1*s*.; and if not there at twelve, to be disqualified altogether. That every member shall furnish the secretary with a list of all the rabbits he intends to show for prizes, stating the day when littered, their colours, and the colours of the doe they came from, at least one week previous to the show-day. Any member or members not complying with the above bye-laws will be fined 5*s*. each. That the secretary shall be compelled to visit and inspect every member's rabbits that have any entered to show, at least three times before the show-day, under a fine of 1*s*. for every member he shall neglect to visit.

Of the rules and regulations, the following are desirable to note;—That this society may consist of an unlimited number of members; each member to be admitted by ballot; every member to pay 1*s*. per month contribution; honorary members sixpence. That the monthly meeting nights shall be the first Monday in every month, at eight o'clock in the evening, at the above house. All rabbits bred by the members of this club, to contend for prizes, must be kept upon such members' own premises, otherwise they will not be eligible to be shown. That any member shall be allowed to enter as many does that have kindled as he thinks proper; but no member be allowed to show any rabbit unless it be entered on or before it is seven days old; the colours to be named on or before the fourteenth day from the time of their being kindled, or such rabbits will not be allowed to be shown. That any member be allowed to see a brother member's rabbit that is entered at a proper time; any member refusing to show them to him, or endeavouring to deceive the society in any manner whatever, such member or members shall be fined the sum of 5*s*., or be disqualified to show any rabbit at the ensuing show. That if any member brings any rabbits to contend for prizes which shall be proved to be older than stated, or should be proved not to be bred

by him, such member showing them shall be immediately expelled, and forfeit all moneys he has paid towards the funds of this society. That this club agrees to give nine prizes, at each half-yearly show, which shall be awarded as follows:—First, for the longest ears; Second, for the next best; Third, for the next best; Fourth, for the best black and white; Fifth, for the best yellow and white; Sixth, for the best tortoiseshell; Seventh, for the best grey and white; Eighth, for the best blue and white (*the last five for all properties*); Ninth, for weight. No member to be allowed to take more than one prize at each show. That two exhibitions shall take place in each year—the first Monday in February, and the first Monday in August; the judges to be chosen previous to the show-day. All rabbits sold on the meeting nights of this club, the seller to pay one shilling in the pound to the general fund; if less than a pound, sixpence. No rabbit shall be considered legal to contend for any of the above prizes if proved to be a cut or imperfect rabbit, in the consideration of the committee; no rabbit will be eligible to be shown if under eight weeks, or which exceeds eight months of age at the time of being shown; no rabbits will be allowed to take a prize for weight if proved to be with young at the time of being shown, but may be eligible to contend for any other properties. That each member on entering a doe as having kindled, do pay sixpence.

For still more precise details, we are indebted to Mr. Clinton. In competing for prizes there are seven properties required:—First. Length of ears—the longer the better; one sold by Mr. Clinton had ears twenty-two inches in length. Second. The width of ears; the extreme has been five inches.* Third. Carriage of the ears, *i.e.*,

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* A correspondent of the *Cottage Gardener* states himself to be a rabbit-fancier of thirty years' standing, and that he bred the longest-eared rabbit ever known. He has her (for it was a doe) preserved in a glass case. Her ears, from tip to tip, measured twenty-two inches, and each ear in width was five inches and three-eighths. Her weight was eighteen pounds.

the way they fall. They ought to be nearly perpendicular in their fall, *i.e.*, so as to drop close to the outer corner of the eye. Fourth. The size and form of the eye—the larger and fuller the better. Fifth. Colour of the fur. These are—blue and white, yellow and white, grey and white, tortoiseshell, black and white, grey, black, blue, and white with red eyes. Sixth. Shape. Of the general beauty of form, any common observer can judge. High forehead and broad poll is required for first-class animals. Seventh. Weight. At little over seven months the heaviest are from ten to twelve pounds. They are not admitted to compete for prizes beyond eight months old.

APPENDIX.

TO COOK PIGEONS AND RABBITS.

ENGLISH WAYS OF COOKING PIGEONS.

PIGEONS, quails, and other dark-fleshed birds, have the reputation of being a heating diet. However that may be, one epicurean rule holds good with pigeons, which is, whatever recipes may be given to serve them hot, in all forms they are better eaten cold.

There are, in point of fact, only two orthodox English ways of cocking pigeons; namely, in a baked pie, and in a boiled pie, or pigeon-pudding.

Baked Pigeon-pie.—Pluck, singe, and draw the birds. Cut off the heads and necks, and put them aside with the livers and gizzards. Boil these down for gravy, with a piece of beef, adding pepper, salt, and mace. Some persons put the pigeons whole into the pie-dish, but it is more convenient to help at table if they are cut in halves, by splitting them lengthwise down the back and along the breastbone. Put a pie-cup inverted in the centre of the dish, to retain the gravy. At the bottom of the dish put a layer of lean beefsteak. On the beefsteak lay the pigeons, till the dish is full. Have ready some hard-boiled eggs peeled from the shell; halve them crosswise, and make use of them to fill up any hollows that may be between the pigeons, with the view of making the crust with as smooth a surface outside as possible. The feet

and legs of the pigeons must have been cut off at the knee. When the crust is on the dish, and the pie is finished making, stick a bunch of these feet and legs in the middle, to mark what sort of pie it is. This pie is intended to be eaten cold. As a rule in cookery, all meat pies containing hard-boiled eggs, are meant not to be eaten hot. The pie-dish is here mentioned thus particularly, because it is not the fashion to make pigeon-pie with a standing crust, the pigeon being too small a bird to bone without a great deal of trouble.

Boiled pigeon-pie, or pigeon-pudding, is made exactly as the above, except that the hard eggs are omitted, and the pie-dish is lined throughout with paste. Tie a cloth tight over it, and boil it a couple of hours. This pie is eaten *hot*.

FRENCH WAYS OF COOKING PIGEONS.

Roast Pigeons.—The birds should be killed by having their necks broken, and should not be bled. When they are plucked, drawn, singed, and trussed, cover them with three or four thin slices of bacon, and as many vine-leaves tied round them with a coarse thread. Roast them on a spit, and baste them well with good veal broth and a slice of butter. If they are young and tender, half an hour is long enough to cook them. If they are to be eaten hot, dish them up as they are, simply taking off the thread which confines the vine-leaves and the bacon, and serve them with a *sauce piquante* made by mixing a little mustard, salt, tarragon vinegar, and pepper, with the gravy which comes from them. If the gravy is poor or short in quantity, add a little *very good* Florence oil.

If the roast pigeons are to be eaten cold, as advised, they will keep a better shape if the thread is not removed till they are quite cold, supposing it be intended to let the bacon and vine leaves remain upon them. In this case, serve with a garnishing of watercresses, nasturtium and borage flowers, and the heart-leaves of cabbage-lettuces. Let them be accompanied by a sauce-boat containing salad mixture. If the barding (as bacon

so employed is called) and vine-leaves be removed, the pigeons must be glazed, or *glacé'd*, when they are half-cold, with a glazing made by boiling down the remains of a ham, with a small knuckle of veal or a piece of shin of beef. Garnish with slices of lemon and savoury jelly turned out of very small moulds.

To carve roast pigeons, cut them in quarters, leaving the portion of breast attached to each wing or leg that is helped.

Pigeons á la crapaudine; Broiled Pigeons, or, as we might call it, *Pigeons toad-fashion.*—Select young birds which have the down still hanging to the tips of their feathers. Singe them as before, cut off the neck from the body, and split them open down the back. Flatten them as well as you can without breaking too many bones. Smear them with oil or butter, and sprinkle them with salt, pepper, and parsley and chives, minced fine. Make this seasoning stick on in as great a quantity as possible. Cover them also with bread-crumbs or raspings, or with grated biscuit. Lay them on the gridiron, and grill them over a slow fire, which, of course, should be made with charcoal. When they are nicely browned and thoroughly cooked, serve them with a sauce made of verjuice or vinegar, salt, pepper, minced shallots, and a morsel of butter; or they may be served with the above-mentioned *sauce piquante.* Young rabbits may be cooked in the same way.

N.B. Broiled pigeons, rabbits, and chickens, will come to table a better shape if they are flattened and held together with fine iron skewers, parboiled for ten minutes, *in good veal broth*, instead of water, suffered to cool, and the skewers then withdrawn. So prepared, they are convenient for innkeepers and others to have at hand to put on the gridiron, and serve at ten minutes' notice. The sauce for broiled pigeons, most agreeable to English palates, is mushroom sauce, *i.e.*, pickled mushroom buttons thrown into melted butter, with which a little ketchup, Reading sauce, Soy, or other approved browning, has been previously mingled.

Pigeons and Green Peas.—Truss the birds with their feet inside. Put them into a stewpan with a piece of butter and some bacon cut into small pieces. Make them take a good colour, and then add a quart of young green peas, and a bunch of sweet herbs, including mint for those that like it. Give them a toss or two over the fire, and then let them have a dusting of flour. Moisten with a little broth; cook till they are done enough, over a slow fire, and serve with only a very small quantity of the gravy.

Pigeons in curl-papers, or *en papillotes.*—Cook them gently in a stewpan, with chopped bacon, butter, salt, pepper, and nutmeg. When they are half done, add small herbs, mushrooms, and a minced shallot. Care must be taken not to cook them too much. When they are cold, cut them in halves down the back and breast, cover them with their seasoning, and wrap them in oiled or buttered writing-paper. Grill them a quarter of an hour over a slow fire.

Chartreuse of Pigeons.—A *chartreuse*, in the language of French cookery, is meat or poultry of various kinds brought to table in such a way that no animal food is seen, but all which meets the eye are vegetables. It is a practical and standing joke against the Carthusian monks, who profess to live on a vegetable diet, but who are hereby insinuated to be in the habit of smuggling in a morsel of meat. Forgetting its satirical tendency, a *chartreuse*, well cooked and served, makes a very wholesome, agreeable, and handsome dish.

To make a *Chartreuse of Pigeons*, toss up three pigeons in a stewpan, with slices of bacon, onions, a little spice, half a glass of white wine, and the same quantity of broth or gravy. When they are done enough, take them out. Then cook in the same stewpan, together with what remains, some carrots, turnips, and lettuces that have been blanched, and are bound round with a packthread. Also cook separately some green peas and French beans, which latter nust be cut up into lozenges. Cut up the carrots and turnips into long narrow strips. Mix all

these vegetables together, and thicken them with a little strong stock or gravy. Butter the inside of a mould or a stewpan, and ornament the sides and bottom with carrots and turnips, cooked, and cut into round slices like half-pence. Arrange around your mould the pigeons cut in two, and between every one put a large carrot and a lettuce. Put your ragout of vegetables in the middle, and cover with lettuces. Press it a little; heat it up, and *turn it out whole* upon the dish. To succeed in this, the vegetables must have been well drained. The place of lettuce may be supplied by cabbage.

ENGLISH WAYS OF COOKING RABBITS.

Boiled Rabbit, smothered with Onion Sauce.—The rabbit must be skewered and trussed, so as to come to table in a crouching posture. Dust it with flour, as you would a boiled chicken, to make it come out the whiter. Tie it in a cloth; if young, put it into boiling-hot water; if old, into cold water. The time of boiling must be entirely regulated by the apparent age and tenderness of the rabbit. N.B. Tomato instead of onion sauce is a much-approved variation of this dish.

While the rabbit is boiling, prepare your onion sauce thus:—Peel your onions, halve and quarter them, put them on in a saucepan in cold water, boil till perfectly soft, strain them from the water, and then braid them through a colander. To the pulp thus made add a lump of butter and some thick cream, with a little pepper and salt. Then make it just boil up, being careful that it does not burn, and pour it over the rabbit as it lies on its dish. Serve at the same time a piece of boiled white bacon to eat with it, and a tureen of melted butter.

Roast Rabbit. A genuine warren recipe.—Make a forcemeat of bread-crumbs, minced beef-suet, lemon-peel, nutmeg, pepper, and salt, and a little lemon-thyme if sweet herbs are approved. Beat up two eggs, and mix, with them, the whole into paste. Put this forcemeat inside the rabbit, and sew it up, and skewer it into the proper form. Rub the outside of the rabbit over with

butter, flour it a little, and stick on very thin slices of bacon by means of small skewers of iron wire. A French cook would lard them with a larding-needle. These slices of bacon will roast up till they are become quite crisp and dry; the fat which oozes from them will keep the rabbit moist and juicy. Still, it ought to be well basted while roasting. Make a gravy with a small piece of beef (or the livers of the rabbits, if they are not roasted inside), a whole onion put in without peeling it, some whole peppercorns, a blade of mace, and a clove or two, with a small crust of bread toasted very dry and brown, but not burnt. When the gravy is boiled enough, strain it, and add a little ketchup and flour well braided together. Make the gravy *just boil up* (not for a minute or two) before serving with the roast rabbit, in a separate tureen by itself. Some add a glass of port wine to the gravy.

Stewed Rabbit.—Cut the rabbits up into joints. Half-fry them in butter, and lay them in a stewpan. Fry some sliced onions, and put them over the rabbit in the stewpan, with a little powdered mace, pepper, and salt. Pour sufficient water over them to cover them, allowing for the waste by evaporation during cooking. The stew must be done very slowly, only being allowed just to simmer. It will take two hours to do it properly; when enough, take out each piece of rabbit and lay it on the dish on which it is to be served; with the gravy which remains in the stewpan mix a pickled walnut finely and smoothly braided, with a good table-spoonful of ketchup and a dust of flour. Set it over the fire, and pour it over your rabbit directly that it shows symptoms of boiling up.

Rabbit Pie.—Cut the rabbits into joints, and simply stew them with water, pepper, salt, and pounded mace, till they are half done. Proceed then as for pigeon-pie, putting in veal or pork, or both, instead of the beef. Cover with paste, and bake till enough.

To Curry Rabbits.—Take a young rabbit or two, skin and cut them into conveniently-sized pieces to serve, put them into a frying-pan with some butter, and fry them of

a nice light-brown colour; then place them at the bottom of your stewpan.

Slice and fry lightly six or eight large onions; place them over the rabbit in the stewpan. Then mix four table-spoonfuls of best curry-powder and some good stock gravy (which is a great point in insuring success), with salt, cayenne pepper, nutmeg, three or four slices of lemon with the peel on, a small quantity of chopped pickles of all kinds that are at hand, and a glass of sherry.

Boil well, and pour it over the rabbit and onions in the stewpan; let all simmer together for three hours; serve it up in a dish encircled with rice that has been boiled in the following maner:—

Put the rice in cold water, and when it boils let it boil *exactly sixteen minutes* afterwards. The *seventeeth* minute would spoil it utterly. It is as with the charmed bullets of Zamiel,—"The six (-teenth) shall achieve, the seven (-teenth) deceive."

FRENCH WAYS OF COOKING RABBITS.

Marinade of Rabbit.—The French have the habit of steeping or pickling many viands, especially white meats and freshwater fish, in what they call a *marinade*, or pickle, of various composition.

If you are going to make use of a tame rabbit, hulk it, as soon as it is killed, and stuff the inside with thyme, bay-leaves, sage, basil, pepper, and salt. Roast it till it is half done, and let it get cold. Cut it into joints, and put them into a *marinade* composed of white wine (or cyder), lemon-juice, and parsley, shallots, thyme, bay-leaves, and a clove of garlic, all chopped up fine together. After they have soaked an hour, dip them in batter, and fry them in oil or butter which is not too hot. Fry them to a bright clear brown, and serve them dry, garnished with fried parsley.

Gibelotte is the name of a particular mode of stew or *fricassee*, in which various meats and poultry may be served. *Gibelotte* of rabbit (which is the original *gibe-*

lotte) is thus made:—Cut a rabbit into joints. Put a lump of butter into a stewpan, and some lean bacon cut into dice. When they are browned take them out, and put your rabbit in. As soon as it has had a toss or two, add a spoonful of flour, a glass of white wine, and a glass of good broth, a little pepper and nutmeg, a dozen small onions, a few button mushrooms, or instead of them a dessert-spoonful of ketchup, and a bunch of sweet herbs. When the rabbit is done enough, take out the bunch of sweet herbs; put the rabbit bit by bit with a spoon on the dish on which it is to be served, take the fat off the gravy; thicken it if required, so that it be neither too thick nor too thin; pour it over the rabbit, and serve garnished either with pieces of toast or of fried bread round the dish.

It is a not uncommon practice with French cooks, *to add an eel or two, cut into short pieces*, when this and similar dishes are half-cooked, and then to serve the whole together.

Civet is the French name appropriated to a dish of stewed hare; but rabbits are commonly dressed in the same way, when hares are out of season. *Civet of rabbit* is made by cutting it into joints, putting it into a stewpan, and giving it two or three turns on the fire. Then add a dusting of flower, a liberal allowance of red wine, salt, pepper, and a few slices of bacon. Throw in some small onions that have been fried whole in butter, with a *bouquet* of sweet herbs. Make it boil up, and skim off the fat. As soon as it is done enough, take away the *bouquet*, and serve hot. N.B. But a small quantity of the gravy should come to table.

Rabbit Paté.—A very useful standing dish, may be made of any size, the larger the better.

Have ready your rabbits; cut them up into joints; have also an earthern or stoneware *paté*-dish with a close-fitting cover. This kind of *paté* is made without any crust. At the bottom of the dish lay slices of bacon, and over that a layer of minced meat, of any kind you happen to have at hand, mixed with chopped parsley,

chives, a large clove of garlic, mushrooms, and pepper. Upon this bed lay the whole of your rabbits, as closely as you can pack the pieces, and then the remainder of your mincemeat, and some more slices of bacon to cover the whole. Shake it well together. Throw in a glass or two of white wine, put the cover on the dish, and set it into the oven till it is enough. It must not be touched to be eaten till it is cold.

En papillotes, or *in curl-papers*, is a favourite French way of serving small portions of meat, such as joints of poultry and game, chops, cutlets, &c.

For rabbits in curl-papers, cut them into quarters if they are very young, and into joints if they are full-grown; *marinade*, or pickle them, several hours in a mixture of oil, salt, pepper, ketchup, and chopped parsley and chives, well mingled together. Have ready some oiled or buttered white writing-paper, prepared exactly as for cutlets *en papillotes;* do up each piece of rabbit with a little of the seasoning and a thin slice of bacon inclosed in the paper; grill them on a gridiron over a very slow fire, and when they are thoroughly done, serve them smoking hot in the paper, just as they are.

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(172)

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